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The index covering the 92nd volume of "The Railway Gazette," covering the issues from January 6, 1950, to June 30, 1950, has been prepared, and is now available free of charge on application to the publisher

Resignation of Sir Eustace Missenden

THE resignation of Sir Eustace Missenden from the Chairmanship of the Railway Executive was announced by the Minister of Transport during the Christmas weekend. To many it will come as a surprise. For three years, since the railways passed under national ownership by virtue of the provisions of the Transport Act, 1947, Sir Eustace Missenden has been at the head of the Railway Executive and has had to bear the burden of the building of the organisation, on a national basis, to unify the four main-line railways, as required by the Act, as well as to bring back railway services and facilities towards their pre-war levels. When, after eight years as General Manager of the Southern Railway, he undertook this task

he stipulated that it should not be for any fixed period, but that he should be free to retire when, in his view, he considered such a course to be desirable. It was understood from the outset that after about three years it might be desirable to review the organisation in the light of progress which had been made. It is clear that Sir Eustace Missenden now considers that the first stage in the organisation of British Railways has been completed and that another phase is about to commence. In effect, therefore, he has completed the work which he undertook. Although there may be good grounds from the viewpoint of technical organisation for making a change at this stage, there can be no doubt that the resignation of Sir Eustace Missenden, who has borne with distinction his high office on the Railway Executive, and who is the last of the main-line railway General Managers still on active railway service, will leave a gap which it may prove difficult to fill. The announcement of his resignation was made when this issue was already far advanced in its preparation for press, but in our next week's issue we hope to deal at length with some of the achievements of the Railway Executive under Sir Eustace Missenden's Chairmanship and with some of the implications which arise from his decision to retire at this time.

Sir Bruce Thomas

THE retirement of Sir Bruce Thomas from his office as President of the Transport Tribunal at December 31 ends a long connection with the legal side of railways in Great Britain. Born in 1878, he first qualified as a Solicitor, but in 1912 was called to the Bar; he became a King's Counsel in 1928 and a Bencher of the Middle Temple in 1936. Between 1918 and 1932 he was prominently engaged in the enquiries before the Rates Advisory Committee in connection with the revision of railway rates and charges and in the involved and lengthy litigation before the Railway Rates Tribunal, the Court of Appeal, and the House of Lords arising out of the railway charges provisions of the Railways Act, 1921, thus gaining an unrivalled knowledge of the law and history of carriage by railway. In 1932 he was appointed President of the Railway Rates Tribunal and continued in that office when in 1947, by the Transport Act, that Court was re-named the Transport Tribunal. He carries with him in his retirement the happiest recollections and best wishes of all who know him.

Britain Needs More Tourists

THE number of tourists coming to Britain last year, totalling 555,000, showed an increase of 10 per cent. on the previous twelve months, and they spent £43 million here, paying £21 million more to British carriers. Nevertheless, as Lord Jowitt, President, pointed out at the recent annual meeting of the British Travel & Holidays Association, there exists a wide field of opportunity as only 50 per cent. of the Americans travelling to Europe in 1949 visited this country. More than 600,000 overseas visitors are expected in 1950. Dollar income in 1949 represented only 8 per cent. of the total American expenditure on travel and Lord Jowitt is of the opinion that the remaining 92 per cent. is well worth striving for. Sir Alexander Maxwell, Chairman, said that the Association hoped to persuade Festival of Britain visitors to use seaside towns and inland resorts near London as dormitories. For the success of this scheme adequate late train services were necessary, and he was glad to say that Sir Eustace Missenden, Chairman of the Railway Executive, had given a sympathetic hearing on the subject.

G.N.R.(I.) Abolishes Second Class

SECOND class accommodation on the Great Northern Railway (Ireland) will be abolished from January 1, next. There will be no change in the cost of third class travel, but the existing first and second class fares will be withdrawn and replaced by a new first class fare 12½ per cent. higher than the existing second class. First class travel will be available to existing second class season

ticket holders at the present second class rates. The decision to abolish second class accommodation was made some years ago; since then, new rolling stock such as the "Enterprise" expresses and the new diesel three-car sets has provided accommodation for first and third class travel only. The change will result in operating economies on the G.N.R.(I) and will bring the company into line with British Railways, which, however, retain second class on some boat trains, and the railways of Coras Iompair Eireann. Second class travel in Ireland is still possible, on the railways of the Ulster Transport Authority.

Overseas Railway Traffics

DURING the fortnight ended December 17, traffics of the Antofagasta (Chili) & Bolivia Railway increased by £62,100 to £194,080, and following a series of advances in recent weeks, aggregate receipts are now £3,489,104, as compared with £3,350,694 for the equivalent 49 weeks of last year. There were further advances in Salvador and Costa Rica traffics for October, with the result that aggregate receipts since July 1 are now up by £42,000 to £355,000 on the Salvador, and £471,596 higher at £4,361,063 on the Costa Rica. During October Costa Rica receipts improved by £35,030 to £1,015,192 and Salvador made a £19,000 advance to £87,000. South African Railways traffics continued to improve in the week ended November 29 with a £408,690 advance to £1,897,787, and total receipts for the current 34 weeks are now £6,310,449 higher at £57,196,071. On the Victorian Railways during September there were advances in the receipts of railway, road motor, and electric street railways. Railway traffics were up by £103,491 at £1,720,624 and the total advance by all services amounted to £103,977 at £1,729,344.

City & South London Diamond Jubilee

ON December 18, 1890, after one or two premature announcements, the public service began over the City & South London Railway from the original terminus at King William Street, Monument, to Stockwell, just over three miles. Over 10,000 persons had passed the barriers at the City by 7 p.m., and the line became popular immediately. Authorised as a cable-operated subway between the City and the Elephant & Castle, it had been extended under powers obtained later and, fortunately, the bold decision had been taken to adopt electric traction and the equipment was entrusted to Mather & Platt. Curves and gradients approaching King William Street were severe, and on February 26, 1900, a new line was opened from Borough to Moorgate Street and the inconvenient terminus abandoned. On June 4, 1900, the railway reached Clapham Common in the south, and on November 17, 1901, Islington in the north; on May 12, 1907, it was extended to Euston. The trains were operated by separate locomotives until the reconstruction of the line was completed after the 1914-18 war. From 1900 until the Underground took over the working in 1913 the three-wire d.c. system of distribution was in use, with 1,000 volts between up and down line conductor rails. The small tunnels were a great handicap, but the railway managed to convey a large traffic. It had a remarkable freedom from accident.

"Contrailer" Freight Transport

A DEVELOPMENT of the British container system of freight transport has been introduced in the United States with the object of facilitating and cheapening the cost of door-to-door freight movement. This new method, known as the "Contrailer," is being made available to American railways on a lease basis. At the present time, a considerable amount of freight traffic is carried in the U.S.A. by loading road trailers on to flat bogie wagons, but the method has disadvantages. It is seldom possible to carry more than two trailers on a single wagon, and the high centre of gravity of the load, which has the height of its own wheels added to that of the wagon wheels above rail level, makes it inadvisable to move the wagons at more than moderate speeds. For Contrailer service,

the flat wagon requires to be fitted with two tubular guide-rails, for each Contrailer the wagon is designed to carry, and two hinged clamps at the rear and a screw clamp at the front to position the container accurately and to secure it to the wagon: auxiliary clamps lock it to the guide rails on either side. Up to three Contrailers, with a total capacity of 900 cu. ft., can be carried on a 40 ft. 3 in. flat wagon, and up to four, of 1,000 cu. ft., on a wagon 59 ft. 2 in. long; as compared with transport in wheeled trailers, the centre of gravity of the load is brought down by 2 ft. 3 in. The Contrailer has been patented in Great Britain and Canada as well as in the United States.

Rome Passenger Terminus

THE design of the Italian State Railways' new passenger station at Rome, now complete, and illustrated elsewhere in this issue, is a compromise between the aesthetic and the utilitarian. The latter prevailed to the extent of confining the terminus to a site cramped by buildings of which a housing shortage precluded demolition; and the original conception of a grandiose entry into Rome by arriving passengers was modified in favour of more convenient locations of passenger and traffic-handling facilities. Even so, the large amount of non-revenue-earning space and the absence of kiosks and suchlike may be strange to British eyes, accustomed perhaps to what a senior L.N.E.R. officer termed "the Kaffir kraal" in front of Kings Cross. The many main-line platforms are provided with a view to future traffic increases, and to the lengthy platform occupation by long-distance trains favoured by the Italian travelling public. Suburban traffic is inconsiderable, largely because of the circuitous approach to the one terminus by most of the State railway lines. Much thought has been given to subway connections with the future Metropolitan railway, to the layout of the tram tracks serving the terminus, and to the location of bus stops, parking-space, and so on, all within the limits imposed by the site.

A Confusion Between Up and Down Lines

THE accident at East Shalford level crossing on February 1, 1950, when a car was run down and its two occupants killed, was caused by the gatekeeper allowing it to cross after an up train had passed, thinking for the moment that it was a down one. As will be seen from our summary of Colonel D. McMullen's report, which appears elsewhere in this issue, the gatekeeper had telephoned to Shalford Station box to find out whether she might open the gates and was told she might not, as a down train was approaching. There was an up train to proceed through the section, but the signalman did not mention it, knowing it would pass the crossing first and expecting the gatekeeper to telephone again when the down train passed her. There was some difference of opinion as to the interpretation of part of the instructions governing the working of the gates, and no copy of them was in the signalbox. Colonel McMullen dwells on the importance of making sure that all such instructions are perfectly clearly worded and that all concerned have them brought effectively to their notice. He also hopes that it may prove possible to install 3-position block instruments along the section and so enable indicators to be placed in the gatehouse. Had the gates closed across the line the driver would probably have missed striking the car, although not the gates.

A 50-Cycle Locomotive in Service

A N event of much significance to the development of electric traction has occurred with the placing in service of a 4,000 h.p. locomotive with single-phase motors operating at 50 cycles. This machine, described on page 600, is now at work on the S.N.C.F. branch from Aix-les-Bains to Annecy, which has been electrified at 20,000V., 50 cycles, for experimental purposes. It is considered by French engineers that the ability to use power from the National grid system without frequency conver-

sion or rectifiers, will greatly increase the mileage on which electrification is economic. As it is proposed to retain 1,500V. d.c. for the main lines, the need will arise for the 50-cycle locomotives to make shunting movements on d.c. track at stations where the two systems meet, and in the first prototype this facility is provided by a d.c. to a.c. rotary converter. The builders claim that if the weight represented by this equipment could be utilised for increasing the capacity of the machine on a.c., a Co-Co locomotive of 6,000 h.p. could be built for 50-cycle operation. An interesting comparison can be drawn between the output of 1,000 h.p. per motor now envisaged with 50-cycle equipment, in view of the satisfactory solution of the commutation problem at this frequency, and the 275-h.p. rating of pre-war 50-cycle motors on the Höllenthal Railway.

British Transport Commission Traffic Receipts

THE traffic receipts of British Railways for the penultimate four-week period of this year, to December 3, are in the main comparable with the preceding period. The decline in passenger receipts continued; these were 5·5 per cent. below those for the period (i.e., mainly October) to November 5, for which there is no seasonal explanation, as is borne out by the aggregate for 48 weeks, which for passenger traffic is now some 7 per cent. down on last year.¹ The rise (9 per cent.) over last year in London Transport railway, and the slight increase in London bus receipts, noted in the preceding period, and the result of the application of the Charges Scheme, persisted, as also did the 11 per cent. rise in B.T.C. road passenger undertakings other than London Transport.

The merchandise and livestock receipts of British Railways were £7,772,000, or nearly 18 per cent. above the corresponding period of 1949, as against £7,651,000 for the preceding period, which was 19 per cent. above 1949. Mineral receipts rose slightly compared with the previous period. Coal and coke receipts were 21 per cent. over the corresponding period of 1949, which, even taking into account the May rate increases, represents a definite improvement. In the aggregate, British Railways total traffic receipts were 4 per cent. above the 48 weeks of last year.

	Four weeks to December 3		Aggregate for 48 weeks		Inc. or decr.	
	1950	1949	Incr. or decr.	1950		
British Railways—						
Passengers	5,966	6,314	-348	98,541	105,605 -7,064	
Parcels, etc., by passenger train	2,480	2,263	+217	28,483	26,803 +1,680	
Merchandise & livestock	7,772	6,607	+1,165	81,232	75,321 +5,911	
Minerals	2,833	2,490	+343	30,014	27,384 +2,630	
Coal & coke	6,796	5,614	+1,182	71,717	62,741 +8,976	
	25,847	23,288	+2,559	309,987	297,854 +12,133	
Road Passenger Transport						
Provincial & Scottish						
Buses, coaches & trolleybuses	2,551	2,290	+261	35,391	32,779 +2,612	
London Transport						
Railways	1,219	1,116	+103	13,425	13,266 -159	
Buses & coaches	2,333	2,291	+42	28,510	28,981 -471	
Trolleybuses & trams	798	822	-24	9,754	10,097 -343	
	4,350	4,229	+121	51,689	52,344 -655	
Inland Waterways						
Tolls	64	55	+9	728	635 +93	
Freight charges, etc.	66	62	+4	781	774 +7	
	130	117	13	1,509	1,409 +100	
Total	32,878	29,924	2,954	398,576	384,386 +14,190	

Inland waterways receipts, at £130,000, were slightly down on the preceding period, but 11 per cent. above last year's receipts; they include tolls, up by 16 per cent., and freight charges, up by some 7 per cent. on last year. Nothing can be inferred from this except a general increase in production. It is a pity that advance figures for B.T.C. marine services and docks receipts cannot be made available concurrently; both these items are far larger than

inland waterways. The same applies *a fortiori* to road haulage, of which the traffic receipts now are the second largest item of the Commission's takings.

PERCENTAGE VARIATION 1950 COMPARED WITH 1949

	4 weeks to December 3	48 weeks to December 3
British Railways—		
Passengers	-5·5	-6·6
Parcels	+9·5	+6·2
Merchandise & livestock	+17·6	+7·8
Minerals	+13·7	+9·6
Coal & coke	+21·0	+14·3
Total	+10·9	+4·0
Road Passenger Transport		
Total	+11·3	+7·9
London Transport		
Railways	+9·2	+1·1
Buses & coaches	+1·8	-1·6
Trolleybuses & trams	-2·9	-3·3
Total	-2·8	-1·2
Inland Waterways		
Aggregate	+11·1	+7·0
	+9·8	+3·6

Lord Ashfield and the Public Corporation

“THE Chairman and I are complementary to one another,” once said the late Frank Pick, Deputy Chairman of the London Passenger Transport Board, of his chief, Lord Ashfield. “He has all the qualities I have not got. Above all, he always knows which way the cat is going to jump.” These remarks, which are the clue to the differences between the two men as well as to the division of function between them, were made to Mr. F. A. A. Menzler, now Chief Development & Research Officer, London Transport Executive, whose duties for some years brought him into contact with both. Mr. Menzler fittingly made Lord Ashfield the subject of his recent lecture, one of a series on personality in administration, delivered to the Institute of Public Administration.

Taking the word “administration” in its “Civil Service” sense, Mr. Menzler presents a lucid analysis (insofar as it is possible to analyse so elusive a character) of Lord Ashfield's personality as revealed in the many activities he conducted from 55, Broadway. Although he concentrated more or less on finance, policy, and external affairs, leaving day-to-day management to Pick, Ashfield suffered from a divine discontent. “He was always,” says Mr. Menzler, “urging on all concerned . . . re-examination of accepted policies and practices.” In contrast to his second-in-command, he saw local transport from the passenger's rather than from the operator's or from the engineer's point of view. If Pick was mainly successful in his intuitions and, again in Mr. Menzler's words, “was like a brilliant shot, who in moments of aberration might hit the gamekeepers (his associates), Ashfield also accounted for gamekeepers at times, but with deliberation.” It is not therefore so very surprising to hear that Ashfield “was not remarkable in matters of organisation; Pick seemed to do it all”—which gave the Chairman time for his long-range thinking.

Enumerating some of the stages in the development of London Transport as a single unit, Mr. Menzler emphasises Ashfield's judgment, patience, and knowledge of human nature—(rather than intellectual power, with which Pick, lacking nothing, could not have achieved so much)—in negotiating and carrying through the long series of administrative and legislative processes. He speaks also of his extraordinary prescience, of his charm and sense of humour, and of his firm belief in agreement on a basis of mutual trust, rather than outwitting an opponent. Though procrastination seemed to grow as a habit in later years it had often been deliberate, for Ashfield's sense of timing was acute. The power of his personality is demonstrated in Mr. Menzler's account of a mass meeting in 1931 of Underground Group shareholders called to approve the terms agreed by Ashfield with the Minister of Transport for acquisition of the Group's transport interests by the proposed L.P.T.B., when the tremendous weight of his personality turned the scale and secured a favourable vote.

Preliminary staff-work, however, was demanded by

Ashfield in important matters, and he also was given to consultation of his subordinates, to whom, in contrast to Pick, he would listen at length. He never, however, concerned himself with details, though he carefully weighed words. Pick, on the other hand, consulted few except the Chairman, but was meticulous as to facts and figures.

In the genesis and development of the London Transport Executive, Ashfield was a major influence, although, says Mr. Menzler, he never conceived the idea of unification through the public corporation, for which he considers Mr. Herbert Morrison mainly responsible. To Ashfield, with his insistence on high standards of efficiency and maintenance, is due the excellent state of the undertaking which passed into public ownership under the care of the London Transport Executive. Later Mr. Menzler adds: "London Transport, as we know it physically today, owes more to Frank Pick than to any other single person. Yet . . . with all his gifts . . . he himself could never have brought about the creation of the setting in which he achieved such magnificent self-expression." The fact that Ashfield throughout a long and eventful period remained undwarfed by his exceptionally gifted second-in-command is the highest possible tribute to his capabilities and administrative stature. His career has a direct bearing upon one of the major problems of the age, the direction of great corporations. In the circumstances in which he achieved success, full play was given to individuality, personality and leadership, without which any large organisation will gradually die on its feet.

Railway Wagon Supply

THE British Transport Commission report for 1949 gives British Railways estimated steel requirements for the year at slightly less than 1,000,000 tons. But on allocation the railways received only 810,000 tons. The reduction hit the wagon building programme severely, as mineral wagons, which formerly were built of timber for the most part, are now being constructed entirely of steel. The Government also notified the B.T.C. that its 1950 capital investment programme, which includes the renewal of rolling stock, would have to be reduced from £100·2 million to £95 million. Subsequently, an additional wagon building programme for 1950, costing £2·7 million, was approved. That concession, however, came too late to prevent the wagon stock from falling by November to a level which seems unduly low for a time when industry is being called on to undertake a heavy armament programme on the top of its current high output.

During 1949 the total stock of wagons was reduced by 66,550, or 5·7 per cent., to 1,098,600. The number of wagons condemned was 97,800, and less than one third of that number was replaced by new wagons. The tonnage capacity of the total stock fell by only 3·8 per cent., because the average capacity of a wagon increased from 12·5 tons to 12·75 tons. Roughly speaking, in 1950 only 2 wagons have been put into service for each lot of 3 withdrawn. By November 5 the total operating stock was reduced by some 12,200 wagons to 1,086,400. As the report says that "though there has been an improvement in average age since vesting date, large blocks of old and relatively serviceable wagons still remain and hamper the efficiency of train operation to a degree disproportionate to their numbers," the wagon position cannot be regarded as satisfactory.

This account of the poor state of much of the existing stock is confirmed by the position into which wagon repairs have drifted. At December 31, 1949, the number of wagons under repair was 93,074, representing 8·4 per cent. of the book stock. The Railway Executive expected to bring the percentage down to 5·5, but now explains that repairs per wagon averaged 3·6 in 1949, against 3·3 in 1948. On an average, each former railway-owned wagon was repaired three times last year, and each former private wagon five times. The poor quality of timber now used causes wagons to be stopped for repairs more often than before the war. Apparently, there is no prospect of the average weekly output of repaired vehicles being raised

above 76,000, so that the position may become worse with the lapse of time.

The figures published in the first 11 issues of Transport Statistics, 1950, show that the under-repair percentage decreased slightly until June. It then rose to 9·8 per cent. in August, but fell to 8 per cent. on November 5, owing to the large number of repairs overtaken in the previous 8 weeks. Even after that special effort, however, the available operating stock of wagons was barely 1,000,000 on November 5.

The report admits that some difficulties occurred in 1949 in meeting wagon requirements, which were continuously at a high level, though the average weekly number of wagons loaded was slightly below the 1948 figure. Special measures, including weekend working, were adopted to supply the collieries with empties. Better wagon loading for all classes of traffic eased the problem of meeting demands to some extent. The average wagon load of coal increased by a quarter of a ton between January, 1949, and December, 1949, due in part to the larger number of 16-ton wagons in use. In addition to working a number of 16-ton wagons in circuit for the carriage of home ore, 400 were adapted at a slight cost to carry 27 tons of ore. Good transits also helped the wagon supply. The round-trip times of all types of wagons were reduced during the year and were lowest in November and December. Terminal user time at stations and sidings was as a rule reasonable.

The crucial question is whether operating results can be improved sufficiently this winter to offset the weakening of the wagon stock. It is all to the good that wagon loads grow larger and that freight-train speed was higher this year until September. It is not so good that empty wagon-miles have tended recently to increase faster than loaded wagon-miles. But no matter how efficiently the railways are operated, a great deal will depend on the rate at which new wagons are installed and on the success of the campaign to overtake arrears of wagon repairs.

The number of new wagons built was 40,800 in 1948, 32,490 in 1949, and 21,800 to November 5, 1950. The average number per four-week period was thus 3,140 in 1948, nearly 2,500 in 1949, and only 1,980 in 1950, when the volume of traffic is expanding. The railways have ample track capacity and administrative ability at their disposal, but cannot use these assets to the best advantage without adequate equipment. The present policy of the Government threatens to curtail wagon supply and so to deprive the railways of their unique advantage of being able to furnish an increasing volume of transport at a diminishing cost.

Very different is the treatment accorded to road transport. At the opening of the International Commercial Transport Exhibition on September 22, the Minister of Transport said that the number of freight vehicles on the road in June this year was 872,000, as compared with 513,000 before the war, an increase of 70 per cent. During 1949, the total number of freight road vehicles licensed increased by 55,150, or more than 7 per cent., but "C" licence vehicles which their owners use to carry their own goods multiplied at twice that rate. The falling-off in the railway-borne tonnage of high-class merchandise shows that many of the "C" licence vehicles are diverting the traffic which produces the most revenue per ton-mile.

The development of private road transport obviously adds to the difficulties of the B.T.C. in discharging its mission to provide "an efficient, adequate, economical, and properly integrated system of public inland transport." Already the tight control by the Government on capital investment means that the B.T.C.—in the words of its own report—can hope to do little more than preserve the railways "in a reasonable working condition." Unless that term covers the provision of a wagon stock capable of meeting an expanding demand, the future of the railways is bound to be precarious. The rise of their operating ratio from 92 per cent. in 1948 to 96 per cent. last year was ominous. The surest way of altering the trend of the ratio is for the railways to secure more freight traffic, and work it economically, but that cannot be done without plenty of wagons.

Railway Centenaries of 1951

THE resources of British railways had never before been so heavily taxed as they were in the summer of 1851. It was a beautiful summer, and London had all the glamour and brilliance of the Great Exhibition to offer the visitors who poured into the great termini for the occasion. It seemed that the whole nation was *en fête*. The Exhibition was opened in Hyde Park in the building afterwards known as the Crystal Palace (subsequently moved to Sydenham) by Queen Victoria on May 1. People flocked to see it, not only from the country but from the Continent as well. The result was soon seen in the traffic returns of the various companies leading into London. The G.W.R. receipts rose in May by 5·16 per cent., in June by 31 per cent., and in July by 56 per cent. over those for the corresponding month of the previous year. The L.S.W.R. with rises of 6·55, 23·7, and 40·9 per cent. was little less remarkable, while the South Eastern, with most of the Continental traffic, followed with 17·3, 10·7, and 30·7 per cent. The long-distance traffic from the North gave the L.N.W.R. increases of 2·46, 26·5, and 28·9 per cent., and the Great Northern did an excellent trade, though, as it was not open to London in the previous year, no comparative figures are possible. Contemporary statisticians recorded that, in the twenty-four weeks during which the Exhibition lasted, the aggregate amount received by "the eight companies having their termini in London" (the Great Northern, Eastern Counties, Great Western, Blackwall, Brighton, North Western, South Western, and South Eastern) was £2,952,802—an increase of £751,155 on the corresponding period in the previous year. The increase in the carriage of goods was £98,460. Moreover, railways were helping to bring down the cost of living. Political action during the "hungry 'forties" had given the people cheap bread; and the railways, by providing inexpensive and speedy transport for coal, had given them cheap fires.

The new railways opened in Great Britain during 1851 totalled only 168 miles. By this time, the lines authorised during the Railway Mania period had mostly been either built or abandoned. A list of the principal openings is given in our Scrap Heap columns, and, as is our custom, these notes are concerned principally with railway personalities who were in the news one hundred years ago. 1851 was a year of triumph for Thomas Russell Crampton. Not only did his locomotives bring him a gold medal at the Crystal Palace, but, while the Exhibition was in progress, he laid the first practical submarine cable between Dover and Calais, after the "pioneer" cable had failed. Robert Stephenson, too, was at the summit of his success; whereas the once all-powerful "Railway King," George Hudson, was at the very nadir of his fortunes. Hudson, in fact, enjoyed at that time the unenviable distinction of being the pet aversion of *Punch*. In the first week of the year *Punch* reported: "We shall see him, one of these unhappy days when everything is below par, buying up half-a-dozen bankrupt railways, and being chairman, directors, shareholders, and everything himself, which will certainly be the best way of 'making things pleasant,' as he will have no one else's accounts, or goose, to 'cook,' but his own."

Perhaps the most interesting of railway obituaries is that, on June 22, of the death of Thomas Edmondson, for it was Edmondson who, as an obscure railway clerk, was so exasperated with the labour of writing tickets for each passenger, that he devised the modern railway ticket system, and from his invention came the Railway Clearing House. Another inventor who died in 1851 (on February 9) was William Martin, who was also a "natural philosopher and poet." He was responsible for various railway contrivances, including "an ingenious mail carriage" for propulsion upon rails by means of a winch and toothed wheel, and a self-acting railway gate; his publication entitled "The Thunder Storm, etc." included an "Account of the Railway Phenomenon, the Wonder of the World." Samuel Beazley, who died on October 12, 1851, was the architect of the South Eastern Railway terminus at London Bridge, besides most of the stations on the North Kent line, and the Lord Warden Hotel at Dover. William Brunton, who died

just a week earlier, invented a "Steam Horse" with a pair of legs in 1813, which hauled a load up a steep gradient near Butterley. It worked at Newbottle Colliery, County Durham, until it exploded, with loss of life, in the year of Waterloo. J. S. Heron, Secretary to the Lancashire & Yorkshire Railway, died on January 25; and on September 10 William West, F.R.S., a famous analytical chemist, who was awarded the coveted Telford silver medal for a paper "On Water for Locomotive Engines," which he read before the Institution of Civil Engineers. He was also author of papers on the Leeds & Selby Railway, and on "steam-engine boilers, locomotive engines, and railways."

Another celebrity who died in 1851 (on December 5) was Sir John Gladstone, father of the famous Victorian statesman. In the 1820s the future premier (who was then in his teens) wrote that his father was busy with a plan for "a railroad between Liverpool and Manchester for the conveyance of goods by locomotive steam-engine." In 1851, incidentally, there could still be found a die-hard capable of writing that "a gentleman should travel by post, not in one of these infernal levelling trains, where you may find a bag-man on one side of you, and a lunatic on the other." The circumstance recalls that famous reactionary, Lord Eldon, who held the office of Lord Chancellor for a record period, and the bicentenary of whose birth occurs on June 4. The last time that Eldon spoke in Parliament (in 1834) was against a Bill which had come up from the Commons for "the making of the Great Western Railway." "Railways," said his lordship on that occasion, "were dangerous innovations."

Our review ends with necessarily brief references to some of the celebrities with railway associations who would have become centenarians had they survived until 1951. Sir James Charles Inglis was General Manager and Consulting Engineer of the Great Western Railway, and spent his life in the construction of docks and railways; John Avis (December) was Continental Traffic Manager of the South Eastern & Chatham Railway; Sir Edward Henry Fraser (February 15) was a Director of the Great Central and other railway companies; and Viscount Younger of Leckie (October 13) was a Director of the Southern Railway. Some noted colonial administrators were born in 1851, including Sir William Hall-Jones (January 16), who was simultaneously Prime Minister and Minister for Railways in New Zealand; and Sir Robert Philip (December 28), a Queensland statesman who became Minister for Railways, and subsequently Premier. Walter Henry Macnamara, also born that year, was Secretary and Registrar of the Railway & Canal Commission, and represented Great Britain at various International Railway Congresses. Stuyvesant Fish (June 24) was President of the Illinois Central Railroad, and President of the American Railway Association; and William Ashmead Bartlett Burdett-Coutts was a zealous advocate of railway reform, responsible in some measure for the Railway (Accounts & Returns) Bill of 1910. A celebrity born in 1851 (on October 2) was Ferdinand Foch who, in his capacity of Allied Generalissimo, signed the Armistice of November 11, 1918, in the famous railway coach at Compiègne; and another was Sir George Newnes (March 13) who made journalistic history when, after the institution of *Tit-Bits*, he constituted each copy of the paper a railway accident policy. Sir George Newnes was keenly interested in transport. He promoted the Lynton & Barnstaple Railway, and various steep-grade cable lines, and also introduced early motorbuses, which he sold to the G.W.R. Among others born in 1851 were Sir David Salomons (June 28), Director of the South Eastern Railway; Ernest Shadbolt (July 15), Director of Railway Construction to the Government of India; and John Wallis Shores (February 18), Engineer-in-Chief of the Natal Government Railways.

BROWN BAYLEY'S STEEL WORKS LIMITED.—Details are available of the proposed segregation of assets of Brown Bayley's Steel Works Limited under a scheme agreed with the Ministry of Supply. Compensation attributable to investments which it is proposed to retain is £1,200,000; and it is proposed to modify the rights of preference shareholders, so that in the event of winding-up they are entitled to 35s. a share.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

West London Line

December 17

SIR.—I am pleased to note that the correspondence on the West London line has reopened. I have been disappointed that there has been no reaction from official sources to the repeated suggestions that the line be reopened to passenger traffic.

The capital outlay involved in reopening the line cannot be all that heavy, and now that the expensive schemes of Underground extensions to Camberwell and Elstree have been abandoned there seems little reason why some money should not be available for the West London line in spite of the rearmament programme.

The loss of the West London line has in recent months been brought home to many Londoners due to the closing earlier this year of Battersea Bridge because of damage sustained when a tanker collided with it. It now seems likely that the bridge will reopen first. Though not especially convenient, the old Battersea Station would nevertheless be one of the nearest stations to the proposed Festival of Britain Amusement Park.

Yours faithfully,

J. B. LATHAM

18, Wheatsheaf Close, Woking

Railway Efficiency

December 7

SIR.—May I trespass on your valuable space to thank Mr. Rose for his compliments in your December 1 issue? Although his logic is somewhat shaky and Mr. Barrie's easy disproof of his previous statements rather detracts from the emphasis one can place on his judgment, I appreciate the sentiment.

In conjunction with the rather more subdued tone of his last letter, they provide evidence of his widening outlook and more tolerant attitude.

Yours faithfully,

H. W. WARWICKER

7, North Station Road, Peterborough

Southern Region Pacifics

December 7

SIR.—I read with interest Mr. Saxby's letter in *The Railway Gazette* dated December 1, 1950, concerning the Bulleid Pacifics. Being a regular reader of the journal in whose pages the original article to which Mr. Saxby refers appeared I would respectfully point out that the writer—a gentleman of wide knowledge and experience—stated the facts in regard to the technical design and construction of the valve gear of these engines, and did not indulge in mere hearsay, as is so often the case when one hears these particular engines discussed.

I may agree to a certain extent that some present-day enginemen do not possess the same pride and interest in driving and understanding an engine as did their counterparts in days gone by, but even so, this possible failing, applicable as it is to a minority, cannot entirely account for the shortcomings of one class of engine.

As is well known, when a new type of engine is required, the primary facts governing the design are the routes over which the engine will have to work, and the type of traffic on which it will be used. These data having been supplied, and the desired timing and train weights to be hauled laid down, the Chief Mechanical Engineer's department begins to "get an engine on the board" which will fulfil these specific requirements, in regard to performance and power.

Throughout this stage of the engine's embryo state two other important facts are usually under close and constant scrutiny, namely, the practicability of the design in relation to its ultimate economical running, and maintenance costs. I would venture to say, in the case of these Pacifics, that

some of the last-mentioned features appear to have been sacrificed in striving to produce a "revolutionary design."

I mention the above, as, when Mr. Saxby writes: "the trains stop frequently, pull heavy loads, and are, therefore, subject to greater strain than they would be on normal express work," I feel he is unwittingly admitting the inability of the design to operate successfully and efficiently. Under normal traffic conditions the "Battle of Britain" and "West Country" classes are only occasionally used on stopping trains on the Eastern Section, and then only to complete the required mileage to qualify for a shed overhaul, which in the majority of cases sounds desirable, and feels even more essential if one is riding on the footplate, for usually by this time the valve timing is appalling.

The Bulleid Pacifics, when new from the shops, are, I understand, reasonably satisfactory, but after a short spell on the road their efficiency and trouble-free running is gradually, but progressively, decreased, and these engines are not the easiest to service, as any fitter in a depot will testify in no uncertain language.

With regard to the actual valve gear, I do not envisage it being used on any future British Railways engines. The consumption of oil is excessive, as Mr. Saxby remarks, but this cannot be attributed in its entirety to bad servicing as intimated. A completely successful design of valve gear has yet to be devised, and when one hears the exhaust beats of these Pacifics, surely it is apparent that the modified form of valve gear used does not even approach the efficiency of the more conventional type of Walschaerts gear, let alone surpass it.

My own view is that these engines are not, basically, a good design, but with certain modifications could be greatly improved. The latter remark, I fear, cannot be said of the "Leader" class engine, which, alas, was yet another example of so-called "revolutionary design" turned out from the same stable!

Yours faithfully,

M. V. PINK

21, Albert Road, Ashford, Kent

Motive Power Cost Comparison

December 12

SIR.—Perhaps the most interesting part of Mr. Riddles's Presidential Address to the Institution of Locomotive Engineers, reported in your November 24 issue, was the cost comparison he made between various forms of motive power. I should like to comment in particular on the chart he produced.

As, to be fair, like must be compared rigorously with like, it seems to me that both the electric and the gas-turbine locomotives should not figure in such a comparison, the first because it is not a prime mover and the second because it is purely an experiment and must necessarily be expensive. It might also be contended that the diesel-electric units are an experiment but they do represent at any rate a fully (although not finally) developed alternative to steam.

The cost of these units is shown as £78,000 each, which is presumably the full cost on a basis of 2 off. It seems very unlikely that the comparative figure of £16,000 for the standard Class 5 steam locomotive can be on the same basis of 2 off.

I also find it hard to understand why a cost per pound of tractive effort should be extracted as both the steam and diesel-electric locomotive can be designed to produce any starting tractive effort between wide limits with little or no variation in cost. It is surely the tractive effort at speed, that is, the drawbar h.p., that matters.

On this point, as far as I know, a standard Class 5 locomotive has yet to be built and tested, but it seems unlikely that it will be much, if any more, powerful than a L.M.S.R. Class 5 or an L.N.E.R. B1. As far as I am aware, neither of these locomotives showed itself capable of producing more than 1,200 d.b.h.p. for any long period during the

1948 locomotive exchanges. In ordinary day-to-day service, taking their chance with drivers, coal, and maintenance, it seems unlikely that they do even as well.

The diesel-electric units, on the other hand, will produce the 1,200 d.b.h.p. credited to them on demand by any driver at any time and can keep it up continuously. Furthermore, the full 1,200 h.p. can be made effective at the drawbar over a range of speed as great as 15 to 80 m.p.h. Bearing in mind also that the diesel-electric locomotive, because its moving parts are totally enclosed and it has no boiler, must, for comparable organisation of maintenance, show a much better availability for service than a steam locomotive, it is apparent that the diesel is capable of a much greater yearly output in terms of d.b.h.p.hr. than the steam locomotive. This, I suggest, is the basis on which the comparison should be made to be on just and level terms.

Yours faithfully,
T. R. HUME

62, Long Elmes, Harrow Weald

Insulated Rail Joints

December 19

SIR,—Referring to the letter dated October 11 from Mr. Derrick J. W. Brough and your own note, on page 511 in your issue of December 8, 1950, there are several references to wooden fishplates in my report to the International Railway Congress, although no mention of this is made in *The Railway Gazette* summary.

On page 224/92 the answer to question (26) states: "The use of insulating fishplates of impregnated laminated wood however seems to be gaining ground for this purpose." Further, Table 5 (page 225/93) refers to the main types of insulated fishplates in use on British Railways as (a) and (b), the latter being "laminated wood impregnated with synthetic resin." For London Transport there is also a reference in Table 5 to a "wooden laminated plate, mainly used in tube tunnels."

No detailed description of the laminated wooden fishplate is given as railway engineers, as a body, are familiar with fishplates of this kind—for instance, also in Table 5 is a reference to trials on the Ceylon Government Railway. London Transport has had experience of wooden fishplates of various kinds over some 15 years. Indeed, the use of wooden fishplates has been adopted as the standard for insulating joints under certain track conditions on our system.

Yours faithfully,
P. CROOM-JOHNSON
Chief Engineer

London Transport Executive, 55, Broadway, S.W.1

December 14

SIR,—We have read with interest in your December 8 issue a letter by Mr. Derrick J. W. Brough, advocating the use of laminated wood fishplates for insulated rail joints.

Whilst we agree with Mr. Brough that the fitting of fishplates in a self-insulating material instead of the insulating steel fishplates with separate liners, ferrules, and washers greatly reduces the work and cost of maintenance, we are of the opinion that our "Laycock-Railko" material would be an even better material for these fishplates than the laminated wood material Mr. Brough suggests.

Mr. Brough expressed an opinion that a laminated wood fishplate would be strong enough to stand up to present-day loads. In this connection we would quote from recent tests on our laminated asbestos felt quality material:

Tensile strength (in direction of long fibres)	13 1/4 tons per sq. in.
" (across direction of long fibres)	8 9 "
Compressive strength (flat) ...	32 3/5 "
" (edgewise) ...	7 8 "
Sheer strength (flat) ...	6 9 "

Like Mr. Brough, we are not able to quote figures for laminated wood material, but we believe the above figures of our "Laycock-Railko" material are far better than could be expected from a laminated wood.

Our "Laycock-Railko," being a phenolic resin-bonded asbestos laminate, is proof against rot, mildew, weather, and insect, and free from heat warping—features of first

importance when considered for application in climates and conditions which are less temperate and kindly than our own at home.

Yours faithfully,
L. W. HARDING
Sales Manager (Railway Division)
Laycock Engineering Co. Ltd., Sheffield 8

U.S. Diesel Locomotive Performance

December 11
SIR,—In your September 29, 1950, issue, reference is made to Pennsylvania Railroad diesel locomotive performance data. It is stated that the average engine mileage per engine failure for 1949 was 5,600 miles in fast passenger service and 10,000 miles in freight service.

As no U.S. railway publication has so far presented such all-important diesel performance data, a financial analyst who is interested in railway economics will find your paper a most valuable source of information concerning American railroading. However, for the sake of accuracy permit me to suggest that the above-quoted mileage figures per diesel locomotive failure are obviously incorrect. Should these not read 56,000 and 100,000 miles respectively?

As pre-war Pennsylvania Railroad K-4s and M-1 steam engines averaged 55,000 miles per engine failure in fast passenger service, the reported diesel locomotive performance data would logically suggest a complete "flop" of this type of motive power on one of the largest railways in the United States, were the diesel locomotive figures previously referred to correctly quoted by your paper.

In Press releases dated September 6, 1950, the Pennsylvania Railroad announced the placing of orders for 214 road freight and passenger diesel locomotives and diesel switchers, totalling more than 500,000 h.p. and costing approximately \$55,000,000. No railroad president in his right mind would dare sanction the purchase of new diesel motive power on such a huge scale, unless much greater reliability and ensuing freedom from engine failures obtains, by comparison with steam locomotives.

You are therefore duty bound to correct misapprehensions caused in your readers' minds, by obviously incorrect Pennsylvania Railroad diesel performance data. Even the sorely handicapped Great Indian Peninsula Railway is gravely concerned over its 12,600 engine miles per steam engine failure, as reported in your publication "Overseas Railways, 1950."

Yours very truly,
IRVING SHELTON

[The figures presented by us were those given by Mr. Olivier, the official reporter to the International Railway Congress meeting in Rome. We see no reason to doubt their accuracy, and in his report Mr. Olivier emphasised the completeness of the data supplied to him by the Pennsylvania Railroad.—ED., R.G.]

Midland Route Expresses

December 22
SIR,—I have only just seen Mr. Gore's letter on the above subject in your issue of December 1, and should like to add some comments on the daytime expresses on the Midland route between Manchester and St. Pancras.

In the winter of 1946 there were (except on Saturday) 11 through trains averaging 4 hr. 21 min. for the journey. This winter there are 10, averaging 4 hr. 42 min. In 1946 there were two additional trains on Saturdays, averaging 4 hr. 6 min.; one of these has disappeared completely, and the other now takes 5 hr.

It should be emphasised that this comparison is between the services immediately after the war and those of the present day. Whatever the reasons, which are no doubt excellent, this very substantial worsening of the service on a formerly important main line after four years of peace and reconstruction is disappointing to the traveller.

Yours faithfully,
F. S. EDWARDS

81, Grove Lane, Hale, Altrincham

THE SCRAP HEAP

Some Railway Centenaries of 1951

February 13; Ashford to St. Leonards (Bopeep) opened (28 miles). South Eastern Railway.

March 1, Rugby to Leamington opened (14½ miles). London & North Western Railway.

March, Haltwhistle to Shafthill opened (4½ miles). Newcastle & Carlisle Railway.

May 1, Saltley curve to L.N.W.R., Birmingham, opened (½ mile). Midland Railway.

May 12, Cowley Bridge Junction, Exeter, to Crediton opened (5½ miles). Exeter & Crediton Railway.

May 20, Banbury Road to Oxford opened (3½ miles). Buckinghamshire Railway.

June 1, Maxwellheugh to Sprouston opened (2½ miles). North British and Y.N. & B. Railways.

June 2, Rockingham to Luffenham Junction (Mid.) opened (7½ miles). London & North Western Railway.

June 3, Alloa to Glenfoot (3 miles) and Alloa Harbour Branch (½ mile) opened. Stirling & Dunfermline Railway.

June 9, Camden Town to Junction with L.N.W.R. at Chalk Farm (Hampstead Road) opened (½ mile). East & West India Docks & Birmingham Junction Railway (afterwards North London Railway).

July 1, Elsecar Junction to Barnsley opened (5½ miles). South Yorks, Doncaster & Goole Railway.

August 1, Royston to Shepreth opened (5 miles). Royston & Hitchin Railway.

August 21, Merthyr to Dowlais opened (2 miles). Dowlais Iron Company.

September 1, Tunbridge Wells to Robertsbridge opened (16½ miles). South Eastern Railway.

September 8, Trowse Upper to Lower Junctions, Norwich, opened (1 mile). Eastern Union Railway.

September 9, Westbury to Warminster opened (5 miles). Great Western Railway.

September 19, Gloucester to Grange Court opened (7½ miles). Gloucester & Dean Forest Railway.

September 19, Grange Court to Chepstow (East) opened (19 miles). South Wales Railway.

September 24, Neath to Aberdare opened (19 miles). Vale of Neath Railway.

September, Holyhead Pier extension opened (1½ miles). Chester & Holyhead Railway.

October 1, Starbeck to Knaresborough (Hay Park Lane) opened (2½ miles). Leeds Northern Railway and East & West Yorkshire Junction Railway.

October 9, Six Mile Bottom to Cambridge opened (8½ miles). Newmarket Railway.

Intercommunications

Jim Purnell, who died recently at Trowbridge at the age of 84, worked 50 years on the former Great Western Railway, and claimed to have the loudest voice in Britain.

He could be heard two miles away when shouting instructions, and often called to his wife at home, more than a mile from the station:—

"Mother, I'm knocking off now. Put the kettle on."—From "The Daily Graphic."

Paper War

True or no, this is the story which is said to have made General MacArthur smile on a particularly dark day. An American officer sent out a patrol under a youthful corporal with orders to make a small Korean railway station unusable by the enemy. Two hours later the corporal reported that the mission had been completed. "What did you do?" asked his commanding officer. "Sir," said the corporal triumphantly, "I have destroyed all first, second, and third-class tickets."—From the "Daily Mail."

A Festival Train

The announcement of a Festival of Britain train to Stratford-on-Avon is as admirable as it is express. But though we may sit or stand in a theatre and sleep in a hotel bearing the name of our national poet, is not that enough? Are we also to "go down" and "come up" in the "William Shakespeare"? Everyone would agree that a train should be straightforward in name as in nature, but even in the realm of the obvious, there are several other names.

If "The Swan-of-Avon" sounds too leisurely "The Bard" is thunderous enough, and if any visitor should imagine that bards connote druids, let the new service carry him on to Wales. To name a 1951 train the "William Shakespeare" is to offer ammunition to the Baconites, who may well call this piling pseudo on Ossian.—Michael Redgrave in a letter to "The Times."

Horse Talk

(100 stations now fully mechanised—London Midland Region statement)

"This so-called progress is just a curse And everything's going from bad to worse"

Snorted Blossom one night, as I passed her way,
While she nuzzled for oats in her bit of hay.

"The fact is, Whitefoot, we're all too slow
To keep our end up—we've got to go:

This 'one-way' business is such a whirl.
It's different from when I was a girl.
They're all bunged up at the terminus
And they're putting all the blame on us."

But Whitefoot wagged his wise old head:

"It's time to be doleful when we're dead:
If mankind's preference seems to be
To scrap us for noisy machinery
That stinks, why worry? Our work is done,

We'll kick up our heels and have our fun

Far, far away, in some paradise
Where our only worry will be the flies.
We'll leave the cares that infest our day
To 'mechanical cobs' who can't answer 'neigh'!"

(overheard by A. B.)



"One and a half and a dog and a half"

(Reproduced by permission of the proprietors of "Punch")

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

IRAQ

Conveyance of Pipes

At the end of November, the first shipment of 5,000 tons of 32/30-in. pipes, of an expected quantity of 50,000 tons, arrived at the Port of Basra from Los Angeles for the Iraq Petroleum Company's new 600-mile Kirkuk-Mediterranean pipeline. The pipes were moved by the State Railways on modified metre-gauge pipe wagons to Baghdad and transhipped there to standard-gauge wagons for Baiji (halfway between Baghdad and Mosul) whence pipe-laying operations for the Iraq sector will be conducted. Each lift consists of a 30-in. dia. pipe inside a 32-in. dia. pipe, 31 ft. 1 in. long, and weighs 3½ tons. Six such nests of pipes are accommodated on one pair of pipe-trucks. The pipes for the Syrian sector of the line are being shipped through Tripoli (Lebanon).

CEYLON

Mobile Booking Office

A mobile booking office has been brought into operation in connection with road-rail co-ordinated services introduced by the railway for pilgrim and special traffic.

The office, built on a Studebaker chassis, was designed and built at the railway workshops at Ratmalana. It has three booking windows which are 4 ft. from ground level, with arrangement inside for the booking clerks to work while seated. Messing and sleeping facilities are provided inside the coach for the officers.

A lighting set for the inside as well as the outside area of the mobile booking office, a public address equipment for making announcements about the service, and so on are also provided.

Propaganda Play

The railway is to organise a series of radio playlets from Radio Ceylon featuring programmes in which common offences will be referred to in an amusing and interesting manner. Offences such as ticketless travel, footboard riding, despoiling carriages by tearing off cushion covers and other acts will be emphasised.

CANADA

Ungava Iron Ore Line

At Sept Iles, Quebec, on the lower St. Lawrence, work is beginning on the 360-mile Quebec North Shore & Labrador Railway, the next step in the project of the Iron Ore Company of Canada to tap the iron ore of Ungava.

The line, which will cost some £100,000,000, will link the St. Lawrence with the iron ranges of the north, where 400,000,000 tons of high-grade ore have been charted. The company's mill at Sept Iles, in operation for the last two

years, is sawing timber and sleepers for the railway.

Temporary docks are being built for the unloading of heavy equipment, which will be distributed this winter over the first 100 miles of the railway, enabling grading work to be continued in the Spring. Tunnel boring and some of the heavier rock cuttings are expected to be completed during the winter.

The railway should be ready for full operation in 1954. The expected rate of ore shipments is 10,000,000 tons a year; it is hoped that this figure will be reached a year or two after the railway is completed.

ARGENTINA

General Peron Station

Gonzalez Chaves Station on the General Roca Railway has been renamed General Juan Domingo Peron.

Withdrawal of Branch Trains

A total of 70 trains of the General Roca, General San Martin, D.F. Sarmiento, and General Mitre Railways has been cancelled as not being indispensable and with a view to fuel economy.

New Order for Diesels

A further order of 85 diesel-electric locomotives has been authorised by the National Government. Forty will be supplied by the firm of Siam Di Tella (Westinghouse agents in Argentina), 30

by the General Electric Company of the U.S.A., and the remaining 15 by the Lima Hamilton Corporation. Delivery is expected in 1952.

Northern Transandine Railway

The Mayor of Antofagasta, Chile, recently visited the Governor of the Argentine Province of Salta to discuss certain details of proposed improvements in the services of the Northern Transandine Railway, principally through running of passenger trains between the two countries without transhipment at the frontier. He stated that a new agreement would be signed shortly which would facilitate goods traffic over the railway, almost limited at present to cattle exported by Argentina.

SWITZERLAND

The 1951 Budget

Circumstances have forced the Board of the Federal Railways to budget for a deficit of Fr. 41,000,000 in 1951. The deficit will be due to extraordinary expenditure and not to current costs. The building programme has been reduced to necessities, and further capital should, in the opinion of the railway administration, be provided from public funds. Thus the major reconstruction plans for the stations of Zürich and Berne must be deferred until the problem of finance has been tackled.

The current programme for new con-

The Tigris Bridge



Two Iraqi State Railways metre-gauge 2-8-2 locomotives running coupled across the new road-rail bridge over the River Tigris at Baghdad, during recent structural tests

struction provides solely for the continuation of work on the Geneva junction line (Cornavin-Eaux Vives) and for the continuation of double-tracking on certain sections. The electrification of the lines from Winterthur to Wald and of the old Hauenstein line (the original route of the Gotthard line between Sissach and Olten and since 1915 superseded by the new Hauenstein line and tunnel) is to be continued. Some savings are expected under the heading of permanent way renewals, due to lower prices for materials.

The budget figure for new rolling stock has been increased as payments become due for rolling stock ordered in 1947-49; but new orders will be reduced. Amounts have been set aside for extensions of the existing railway-owned power plants at Ritom, Vernayaz, Barberine, and Massaboden, and for the extension and modernisation of the workshops at Yverdon. The total expenditure is expected to amount to fr.767,000,000, compared with a total revenue of fr.726,000,000.

FRANCE

Transport Reorganisation Bill

The French Cabinet has adopted the transport reorganisation bill, drafted by M. Antoine Pinay, Minister of Public Works & Transport. The bill will shortly be placed before the National Assembly. It comprises transport co-ordination measures, which impose new obligations on road hauliers. These fix tariffs intended to avoid undue competition. When the bill becomes law, its provisions will be enforced by Government decrees.

A yearly tax of fr.30,000 is to be levied on road transport vehicles designed to carry a useful load of more than three tons. This tax will be reduced by 30 per cent. for vehicles operating within specified limits in a department. A departmental tax of 30 per cent. of the preceding amounts is also to be levied. The yield of the State taxes is estimated at fr.9,000 million (about £9,000,000) and fr.3,000 million (about £3,000,000) for

the departmental tax. The proceeds of the tax are to be allocated exclusively to the development and upkeep of the roads.

Railway Reorganisation

Railway reorganisation measures form the second part of the bill. The S.N.C.F. deficit this year is put at fr.96,000 million (about £96,000,000). To reduce it, the Government proposes to assume the cost of all charges on the S.N.C.F. considered as abnormal. The railway system will be divided into two categories, main lines and branch lines. The State will take over costs and upkeep of the permanent way for the S.N.C.F. main lines.

It will grant a subsidy to the S.N.C.F., which will pay dues of two per cent. as user until 1954, when the dues will be increased. This is intended to place the S.N.C.F. on an equal footing with road users. The State will also take over the indemnities involved in reduction of the railway staff.

Management economies are in part to be under the control of Parliament in connection with upkeep of main lines and also in regard to branch lines and modernisation of their working by railcars or the substitution of road transport. Unprofitable lines may be closed unless departmental councils grant subsidies. The plan provides for reducing the number of railwaymen until 1953. In 1954, the retiring age will be increased five years.

BELGIUM

New Railway Post Office

Among the many new buildings forming part of the Brussels Junction Railway scheme is that of the new postal sorting office at Brussels Midi Station. The foundation piles for this building, which will have seven or eight storeys, must be driven soon, if other works under the scheme are not to be held up. Detailed plans have not yet been finalised, but it has already been decided to provide a landing platform for postal

of the testing of the modern mechanised marshalling yard at Toton and a dissertation on railway gradients. The whole book is illustrated in photogravure, and there are numerous illustrations of present-day and older types of locomotives and trains, and other railway subjects.

Rhodesia Railways.—This illustrated brochure, which we have received from the General Manager of Rhodesia Railways, has been prepared at the time of the Southern Rhodesia Diamond Jubilee, and portrays the development of the railways from the beginnings in the closing years of the last century up to today. The Rhodesia Railways now have a route mileage of 2,436 miles of 3 ft. 6 in. gauge, and also operate 2,720 miles of road motor services. The last ten years have seen a great increase in the demands made on the railways;

helicopter services on the roof of the building. The landing platform will have a rectangular surface measuring some 56 ft. by 360 ft.

WESTERN GERMANY

Increased Rail Charges

The West German cabinet, concerned at the deteriorating financial position of the Federal Railways, decided to raise certain passenger fares as from January 1, 1950, including workmen's and students' tickets, whilst there are certain modifications in clerical workers' season ticket charges. The increases generally taper down from 50 per cent. with increased distance. Certain goods and express parcels rates are also raised as from January 1, by 20-25 per cent.

These increases are additional to the increases introduced at the end of 1950, which were to have been abolished by the end of 1950; they have been extended for the whole of 1951. It has been stated that these "crisis increases have brought about an average increase of 6 per cent. in receipts. They will not, however, cover the deficit, as the Federal Railways are now facing heavy increases in staff expenditure. Even if it were possible to relieve the railways of the obligation to pay out DM 80 million on pensions for former Reichsbahn employees who have entered Western Germany as refugees from the Russian Zone or Poland, the deficit would still be DM 340 million.

SWEDEN

Locomotives for Russia

Swedish products listed in the five-year credit agreement with the Soviet Union, concluded in November, 1946, comprise 300 locomotives to be built to Russian specifications. Out of that Swedish credit, amounting to Kr. 1,000 million, Russian orders to October, 1950, amounted only to Kr. 445 million. It is not thought likely that Russia will be able to avail herself in 1951 of the whole balance of the credit. Orders still outstanding would have to comprise 300 locomotives.

the tonnage of goods hauled has increased from 3,332,775 to 5,723,813, and the number of passengers carried from 1,012,419 to 2,933,309. Heavy capital expenditure, which amounted to £33,000,000 in the year ended March last, is necessary to meet these demands, and new rolling stock and equipment of all types is on order and new workshops and other facilities also have been planned.

The Link. Published every Friday by Coras Iompair Eireann, Dublin. Price 2d.—This is the new weekly staff newspaper of Coras Iompair Eireann, taking the place of *C.I.E. Weekly News*, of which it has taken over many features. The first issue appeared on November 24. The contents are interesting and varied, and a balance is preserved between general and local news, features, and instruction to the staff.

Publications Received

Trains Annual, 1951.—Edited by Cecil J. Allen. London: Ian Allan Limited, 282, Vauxhall Bridge Road, S.W.1. 10 in. x 7½ in. 96 pp. Illustrated. Price 7s. 6d. A number of writers of high repute on railway subjects have combined to make the fifth edition of this annual a worthy successor to earlier editions. Whether the railway enthusiast wishes to delve into the past, and re-live old days of the Great Eastern or London & South Western Railways, travel in imagination along the highest railways in the world, or follow the course of the first trans-alpine railway he will find something to satisfy him in these pages. These indeed are but a few of the subjects touched on, and other contributions range from the changing face of electric traction, and mile-long American freight trains, to a description

Some Considerations in the Valuation of Railway Systems

Desirability of a formula for fixing an equitable takeover price for State-acquired lines

(By a Chartered Accountant)

FOR some time, the future of the Great Northern Railway (Ireland), the last important privately-owned railway in Britain, has been the subject of consideration by the Governments of the Irish Republic and Northern Ireland. The proprietors consider that either they should be permitted to operate in Northern Ireland more freely and fully, or their undertaking should be taken over by the two Governments at a fair valuation. The Northern Government believes that a solution of the problem lies in closer co-operation with the Ulster Transport Authority, but the scope of such co-operation has yet to be defined and its value is imponderable.

The Government in the South, because of the pronouncement of the Northern Government, has been relieved so far of the necessity of revealing its attitude. The company, because of its grave financial position, has had to intimate that it will not be able to carry on after the end of this year. The respective Governments clearly have no desire to bring about such a position : probably they would not allow it. A vexed problem has been brought to a head, and light focused on an economic phenomenon.

Freedom of Operation

As a solution to their difficulties, the suggestion of greater freedom for privately-owned railways has been given considerable attention in the past, but has not generally been put into effect. In Great Britain, the "square deal" campaign, whatever its merits may have been, did not succeed. It has been found impossible, or perhaps merely inexpedient, to permit railways to operate with the freedom which their managements have considered necessary for economic working. Numerous Governments have met the problem by acquiring railway systems on an arbitrary valuation, or, at best, a valuation based on earning capacity over a period.

Arbitrary valuation is unsatisfactory from every point of view : valuation based on earnings is almost invariably unfair to the shareholders. Recently, there was an outcry that the British railways had been acquired at a price which makes economic operation difficult, if not impossible. It might be said with at least equal truth that the price paid for coal or any other items of expense has the same effect. The Government in Northern Ireland is not apparently prepared to grant the request of the G.N.R.(I.) for greater freedom in operating, and at the same time has refused to acquire the system.

A commercial concern which cannot pay its way follows the usual practice; it closes down, realises its assets, pays

its creditors as far as possible, and thereafter, if anything be left, distributes to its shareholders a dividend per share. If, on the other hand, a railway is not to be allowed to close down despite its serious financial position, the conclusion is inescapable that it has a value to the community, and therefore to the Government, which is much higher than the revenue which it has been allowed to earn. Various explanations of this value have been given. Recently, the Federation of British Industries ascribed part at least of the value to National Defence. It has also been said that, because public transport assures a reserve of transport to meet fluctuating demands, it has a value greater than it can command from the transport user by way of fares and charges.

Whatever the reason may be, it is obvious that a railway system which a Government will not allow to close down, must have a special value to the community and the Government, which apparently only becomes fully evident when the question of ceasing to work services arises, and for which normally nothing is paid. What this value is, in terms of capital outlay is the question with which this article is concerned. The problem can be divided into two parts as affecting : (a) those parts of a railway system which the Government does not deem it necessary to continue ; and (b) those parts which must be retained in the national interest.

The Belfast & County Down Railway, which was acquired in 1948 by the Northern Ireland Government, is an instance of a line which, after acquisition, was found by the Statutory Tribunal not to be required, except for a small part. If this could reasonably have been foreseen (it certainly could have been, as the company itself had so decided), the obvious course would seem to have been to allow the company to close down and sell its unneeded assets, which is just what the present owners—the Government-owned Ulster Transport Authority—now propose to do.

The Government decided, however, that a disruption of transport facilities in the area should not be permitted in the public interest. It could presumably have informed the company that it was agreeable to winding up, but that this step must be deferred until the Authority was able to provide a fleet of road vehicles, which it is now doing. In the meantime, the Government could have guaranteed that the shareholders would not suffer loss of capital due to the enforced delay in winding up their affairs. Such an arrangement would have been consistent with normal commercial practice and equity. Instead, the undertaking was acquired on an

arbitrary valuation, and after the shareholders were paid off, the closing down and realisation is to be effected by the Government-owned authority. Figures of break-up value for this railway are not available, but it was either compulsorily acquired at a figure less than the break-up value, thus giving the new owners a profit (possibly not so intended, but nevertheless unfair) out of their power to use compulsion, or too great a price for the property was paid.

True Value of G.N.R.(I.)

If the Great Northern Railway (Ireland) is not to be permitted to realise its assets, it follows that the value of the concern is greater than the break-up value. If it be assumed that in the view of the Government, the G.N.R.(I.) is to be divided into a portion which can be closed, as being no longer required in the public interest, and a portion which cannot in the national interest be closed, it is clear that the Government should have no difficulty in allowing the company to close the former portion and realise those assets. The Government should make equitable compensation for delay necessary to permit the redundant services to be replaced by road services, by refunding the amount which the company loses as a result.

Obviously, for the portion essential to the public which it serves, a different basis of valuation should apply. Because of the special needs of the community, that portion cannot have a value less than the break-up value. It seems most desirable that the value of this portion should be determined by a formula which will be equitable, reasonable in accordance with accounting principles, and capable of application by an independent tribunal. Unless such a formula is adopted the Government would have to acquire the property at its own figure—which could, in effect, be confiscation. There can be no question of real bargaining. There are only two parties involved ; one of them, the proprietors, is almost entirely in the hands of the other, the Government.

The Government could depreciate the value of the property, and the proprietors of the railway, in fact, maintain that the principal reason for their present financial position is the Government's action in not permitting them more freedom in operation. In the circumstances it would be contrary to equity if the Government were to judge its own case and name a price. Hence the need for a reasonable formula on which valuation should be based.

In so far as the assets of a company are replaceable, they must be gradually re-purchased over a period, however

(Continued on page 603)

First 50-Cycle Locomotive for S.N.C.F.

Prototype for operation on 20,000 V. single-phase supplies, with provision for running on 1,500 V. d.c. lines at reduced power

After completing trials in September, the first of three prototype 20,000 V., single-phase, 50-cycle locomotives for the French National Railways began regular service on the newly electrified line from Aix-les-Bains to Annecy on October 6, where it is now running an average of 248 miles a day. The electrical installations on this route, for which power from the 50-cycle industrial grid is transformed down to 20,000 V. without frequency-conversion, were described in our February 24 issue.

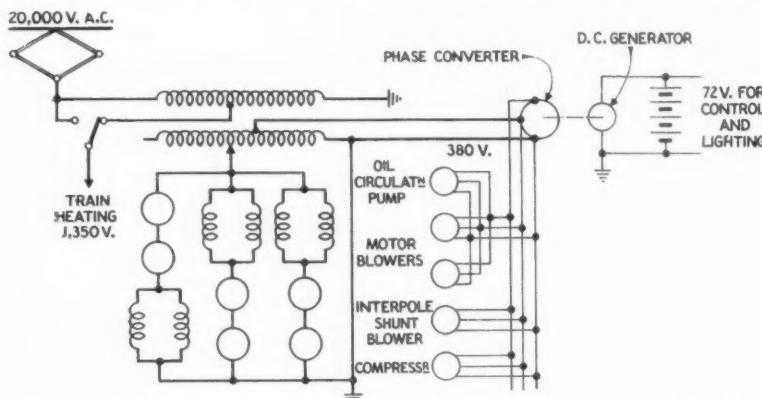


Fig. 1—Power circuits for operating on single-phase a.c. at 20,000 V., 50 cycles

Electrification is being extended at the present time from Annecy to La Roche-sur-Furon, opening throughout being scheduled for 1951.

The new locomotive, CC-6051, has the Co-Co wheel arrangement. The mechanical parts were built by the Swiss Locomotive & Machine Works (S.L.M.), Winterthur, and the electrical equipment by Oerlikon. A preliminary description appeared in our October 8, 1948, issue.

Traction Motors

The most noteworthy achievement in the design has been the overcoming of commutation difficulties hitherto associated with the operation of single-phase traction motors on a 50-cycle frequency. In this locomotive the six traction motors are of the compensated series type, with 16 main poles. Resistive shunts are connected across the interpoles to effect a phase displacement which assists the action of the commutating flux. The motors are fully spring-borne, being mounted on the bogie frames and driving the axles through single-reduction gearing with the S.L.M. type of floating ring flexible coupling. Three series pairs of motors are connected in parallel and fed from the secondary of the main 20,000/575 V.

transformer, Fig. 1, which is tapped to enable the voltage across each motor to be varied from 0 to 275 in 16 steps. Provision is made for regenerative braking on single-phase supplies, two of the motors acting as exciters in these circumstances.

The motor characteristics at 250 V. are shown in the following table:

Horsepower	One-hour	Continuous
Current	710	680
Revolutions per min.	2,780 A.	2,640 A.
Corresponding speed	1,060	1,110
	40 m.p.h.	42 m.p.h.

of armature winding that has been adopted.

Alternating or D.C. Working

It was a requirement of the design that the locomotive should be able to operate on lines electrified at 1,500 V. d.c., although a reduced performance was acceptable in these conditions. When running in this way the d.c. collected by the pantographs drives a 430 kW. rotary converter consisting of a direct current motor coupled to an alternator giving a single-phase output of 300 to 500 V., varying in frequency from 30 to 50 cycles (Fig. 2). This is fed to the secondary of the main transformer, which now functions as an auto-transformer, the traction motors being controlled through the same tappings as in a.c. operation.

It was necessary to provide for d.c. working in this prototype because, in the event of a number of 50-cycle locomotives being built, some would be employed on duties taking them into stations on the boundaries between a.c. and d.c. systems, where they might have to make shunting movements on d.c. lines. Such provision would not be necessary on all 50-cycle machines, and in the present example it is made at the expense of an extra weight of about 8½ tons. The builders consider that if this were represented instead by increased capacity of single-phase equipment, a

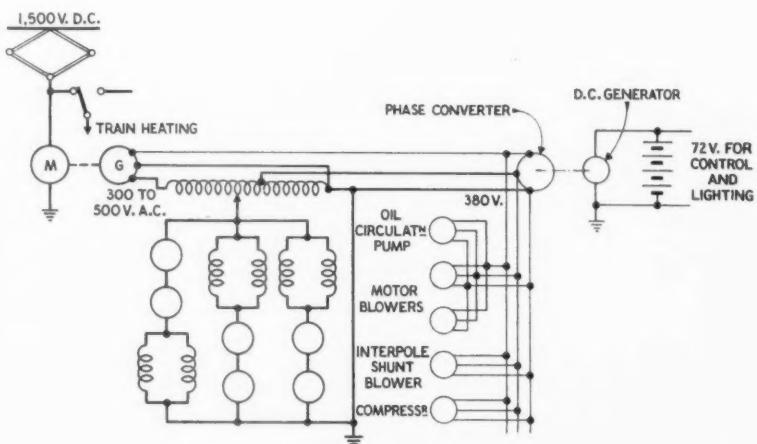


Fig. 2—Motor alternator and traction motor circuits used when running on 1,500 V. d.c. lines

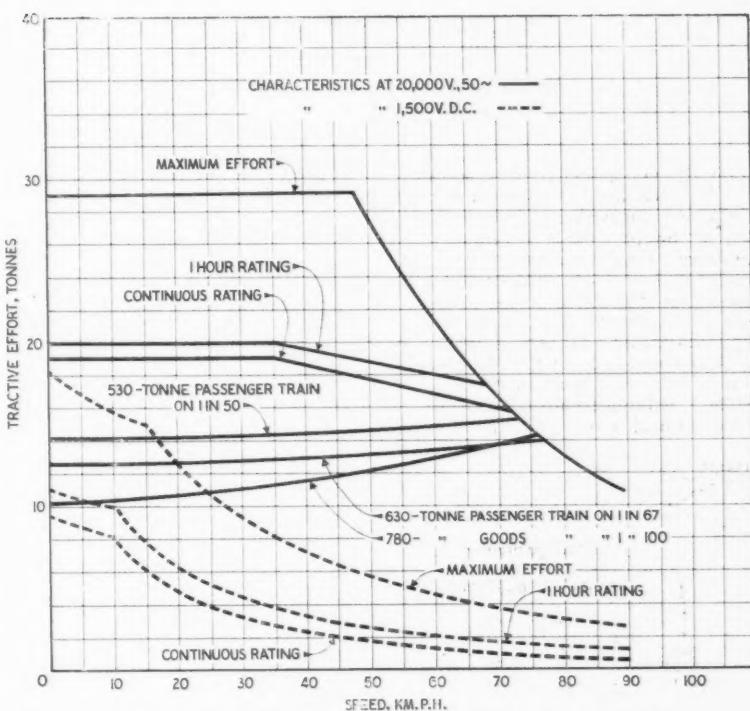
Each motor weighs 6,525 lb. The weight per horsepower is noteworthy for a 50-cycle machine and has been achieved without departing from generally accepted standards of construction and design. An important contributory factor to the results obtained is the type

50-cycle Co-Co locomotive of 5,920 h.p. could be produced, having a maximum speed of 77 m.p.h. and weighing 113 tons. Also, a 3,950-h.p. single-phase, 50 cycle Bo-Bo locomotive capable of the same maximum speed of 77 m.p.h. could be built weighing 77 tons.

All the auxiliaries are driven by three-phase, squirrel-cage motors supplied at 380 V., 50 cycles, from a rotary phase-converter connected across part of the main transformer secondary. This machine also drives a dynamo for charging the 72 V. battery across which the control and lighting circuits are connected. During 1,500 V. d.c. operation the input to the auxiliaries is provided by an additional tapping on the alternator which supplies the traction motors.

The auxiliaries comprise a motor-driven compressor, two motor-blowers for cooling the traction motors and the oil in the transformer, one motor-blower for the resistive shunts across the interpoles, and a motor-driven pump for circulating the cooling oil. A tapping on the transformer primary provides a train heating supply at about 1,350 V. during single-phase operation. On d.c. the heating circuits are connected to the equipment side of the 1,500 V. circuit-breaker.

The same two air-operated pantographs are used for a.c. or d.c. working. On a.c. the equipment is protected by an oil-immersed circuit-breaker. The oil-cooled main transformer is rated at about 3,000 kVA. Control is effected by 19 electro-pneumatic contactors, 16 of which select the transformer tappings which regulate the voltage on the traction motors, while the other three are line contactors, one in each two-motor branch of the power circuits. The three reversers serve also for the changeover



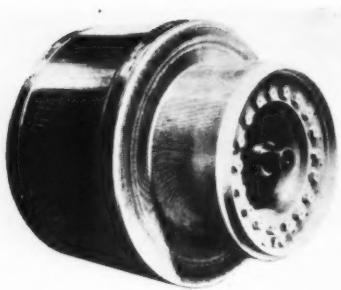
Locomotive characteristics on a.c. and d.c., typical train resistance curves

from power to regenerative braking. switchgear with safety interlocks to prevent incorrect application of power to the various parts of the equipment asso-

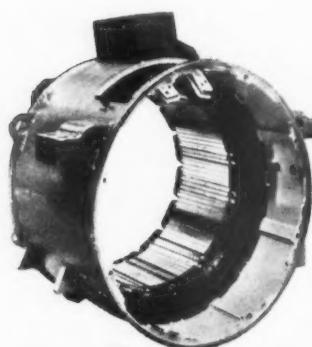


French National Railways Co-Co locomotive for operation on 20,000 V., 50 cycles, single-phase a.c.

December 29, 1950



Armature of one of the Oerlikon 50-cycle traction motors



Stator of one of the Oerlikon 50-cycle traction motors

ciated with each system; and a d.c. high-speed circuit-breaker.

Constructional Details

Principal dimensions, weights and other characteristics of the locomotive are as follow:—

Length over buffers	56 ft. 7 in.
Total wheelbase	43 ft. 4 in.
Bogie wheelbase	13 ft. 9½ in.
Distance between bogie pivots	29 ft. 6½ in.
Wheel diameter	4 ft. 7 in.
Weight in working order	102 tons 15 cwt.
Weight per axle	17 tons 2½ cwt.
Ratings at 20,000 V., 50 cycles (1-hr.)	4,147 h.p. (39,150 lb. T.E. at 40 m.p.h.)	
Ditto, continuous	3,990 h.p. (36,000 lb. T.E. at 42 m.p.h.)

The bogie frames are fabricated by welding, and are supported on square-section coil springs, four per axle, with frictional damping. Double laminated springs, one set at each side of the bogie, form flexible side bearers for the locomotive body and carry the whole of its weight, there being no vertical loading on the two pivots of each bogie, which serve only to transmit the tractive effort. This form of suspension avoids the effects of weight transfer from the leading axles at starting. The frictional contact between the side bearers and

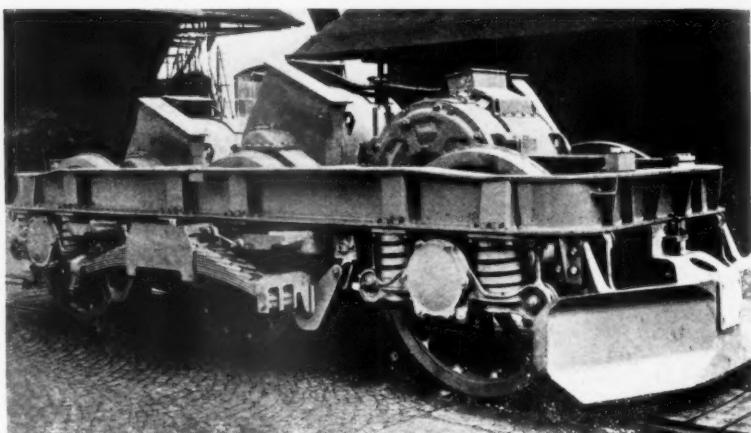
the body provides an appreciable damping of rotational movements of the bogies. Swing links support the side bearer springs from the bogie frames. The Athermos axleboxes are carried by

short links pivoting on Silentblock mountings.

A triangular linkage between the bogies reduces the angle of attack and side pressure on curves, and consequently saves wear of the flanges. This method of coupling bogies was described in *The Railway Gazette* of May 21, 1948.

The main frame and body form a one-piece all-steel structure built up of welded sections and sheet, which carries the couplings and buffers at its ends. A corridor at one side of the central equipment and machinery compartment connects the two driving cabs.

The locomotive is equipped with air braking for its own wheels and for the train, and with a hand brake in each cab which operates on the adjacent bogie. An S.A.B. type adjuster in the brake rigging of each bogie compensates for wear of the brake blocks. Sanding is controlled by pedals in both cabs and is applied to the central and leading axle of each bogie according to the direction of travel.



Motor bogie and traction motors, showing also the laminated spring side-bearers

COAL BOARD TRIBUTE TO RAILWAYMEN.—The great efforts made by railwaymen in expediting the transport of coal from the pits despite weather difficulties is praised by the Minister of Fuel & Power, Mr. Philip Noel-Baker, in a letter to the Minister of Transport. In his letter Mr. Noel-Baker states: "I have been asked by Lord Hyndley to write to you in order that I may, through you, express the gratitude of the Coal Board, and of all those who work in the pits, for the splendid effort made by the staff of British Railways in keeping the coal traffic moving during the bad weather of the last few weeks. I know what a heavy strain this weather imposes, not only on the engine drivers and firemen, guards, shunters, signalmen, and others who work on the line, but also on those in the traffic control offices, signal-boxes and elsewhere, who control the movement of the trains. But they have all overcome the difficulties which faced them in a

manner which is beyond all praise, and have thus saved for the nation coal that is urgently required, but which might have been lost if the pits had had to stop winding. I know we may count on their continued help during the coming months."

JOHN I. THORNYCROFT & COMPANY.—Presiding at the recent annual general meeting of John I. Thornycroft & Co. Ltd., Sir John E. Thornycroft, Chairman, reported another satisfactory year. National insurance, welfare, and taxation took £s. 10-6d. in the £ of income, against 9-3d. reinvested and 1-78d. distributed to shareholders. It was hard to understand how responsible trade union officials could claim that £1 a week wage increase could be paid out of profits without increasing costs. In their capital investment at Southampton they had provided the tools and they now wanted labour to help them to get down to doing jobs at costs competitive with

any other ship repairing organisation. That meant being reasonable over demarcation problems between trades and over restrictive practices.

ALUMINIUM SUPPLIES FROM CANADA.—Arrangements have now been made by the Ministry of Supply with the Aluminium Company of Canada Limited for the supply to the United Kingdom, in 1951, of 50,000 metric tons of virgin aluminium in addition to the 150,000 metric tons already contracted for, and for the supply in 1952 and 1953 of 220,000 metric tons a year. The Government of the United Kingdom has agreed to fund afresh over a period of 20 years the loans made to the company during the war to finance the expansion of capacity in Canada and to make a new loan of \$25 million towards the financing of further expansion. The company will give the U.K. a first call on 200,000 metric tons a year.

More New Stock for Estoril Railway

Additional orders placed with the General Electric Co. Ltd. after introduction of improved services with vehicles already delivered

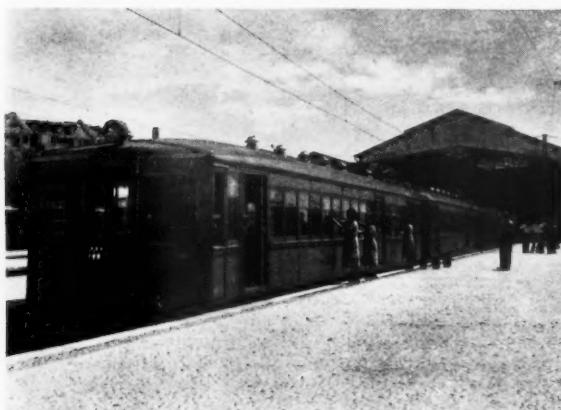
A FURTHER order for rolling stock to the value of £295,000 has been received by the General Electric Co. Ltd. from the Estoril Electric Railway, Portugal, which earlier this year placed in service two motor coaches, five trailers and an electric locomotive supplied by this firm. The multiple unit stock was described in our May 19, 1950, issue, and the locomotive in that of October 6 & 13, 1950.

The new vehicles comprise nine

motor coaches and five driving trailers, and in conjunction with the stock recently put into traffic will contribute to an overall higher standard of speed and comfort on services already much improved in frequency.

The mixed-traffic electric locomotive included in the earlier order placed with the General Electric Co. Ltd. is sharing passenger duties with the motor coaches, hauling trains made up of the new trailers. Further elimination of

older vehicles will be possible with delivery of the new stock now ordered, while increased flexibility in the composition of trains will be permitted by the driving trailers. The mechanical parts and bodies of the new motor coach and trailer stock will be built by Cravens Railway Carriage & Wagon Co. Ltd., Sheffield, which was also responsible for those parts of the multiple unit stock placed in service this year.



Views on the Estoril Railway, Portugal, showing (left) original rolling stock now being replaced by new stock ordered from G.E.C., and (right) G.E.C.-North British mixed-traffic locomotive in service

Some Considerations in the Valuation of Railway Systems

(Concluded from page 599)

long. Thus the original assets of any railway of long-standing have largely disappeared and have been replaced from time to time. If the State acquires such an undertaking, it also will have to replace in time the purchased assets by new assets for which it will have to pay the full market value of timber, for sleepers; steel for rails; and full negotiated wages, for relaying, to mention only one aspect of the problem.

If one branch line on the G.N.R.(I.), the continuance of which the Government regarded as essential, was due for relaying, the full cost at market prices would have to be paid. It seems inequitable that a Government should pay one price to a number of interests, such as suppliers of material and labour, who can bargain, and yet deny this price to shareholders, who have been divested of any power of bargaining. If therefore the company had relaid such a branch, say, one year before acquisition, it seems only just that the Government should pay the replacement cost at the date of acquisition, less that proportion of its value represented by one

year's expired life. Therefore, with all wasting assets such as rolling stock and machinery, the amount which should be paid is the present-day costs, less the proportion of their value attributable to their unexpired life.

The formula on which the price of a railway system which the Government believes it is compelled to acquire and continue—and, if it does not feel compelled to continue, there should be no reason to acquire—is the replacement costs of wasting assets less a proportional allowance for expired life. It is not proposed here to go into these finer points of the question of the unexpired life value of assets, but rather to give an indication of what seems to be the only logical approach to valuation where no true market exists. It is submitted as being in accordance with the accounting point of view; it is capable of being implemented by an independent tribunal assisted by experts on the question of normal life of the various assets; and it avoids acquisition by the Government at the Government's own price.

To sum up, the question of the G.N.R.(I.) seems to resolve itself into the following alternatives:—

(a) give the company full freedom to operate as if it were an ordinary commercial

concern without any, or few, of the restrictions traditionally imposed on railway companies—a solution for which there has been little, if any, precedent elsewhere—or

(b) the Governments in the Republic and Northern Ireland should acquire the undertaking.

In the event of the second decision, the proprietors would presumably be entitled to an equitable payment for their assets. If the company is acquired, the company's property must fall into one of two categories:—

(a) lines which the Government considers unessential in the public interest, and which could be closed and disposed of by the company after provision for their replacement by the road services of the Government or its subordinate authority. In this case, any loss resulting from delay in closing at the instance of the Government should in equity be made good.

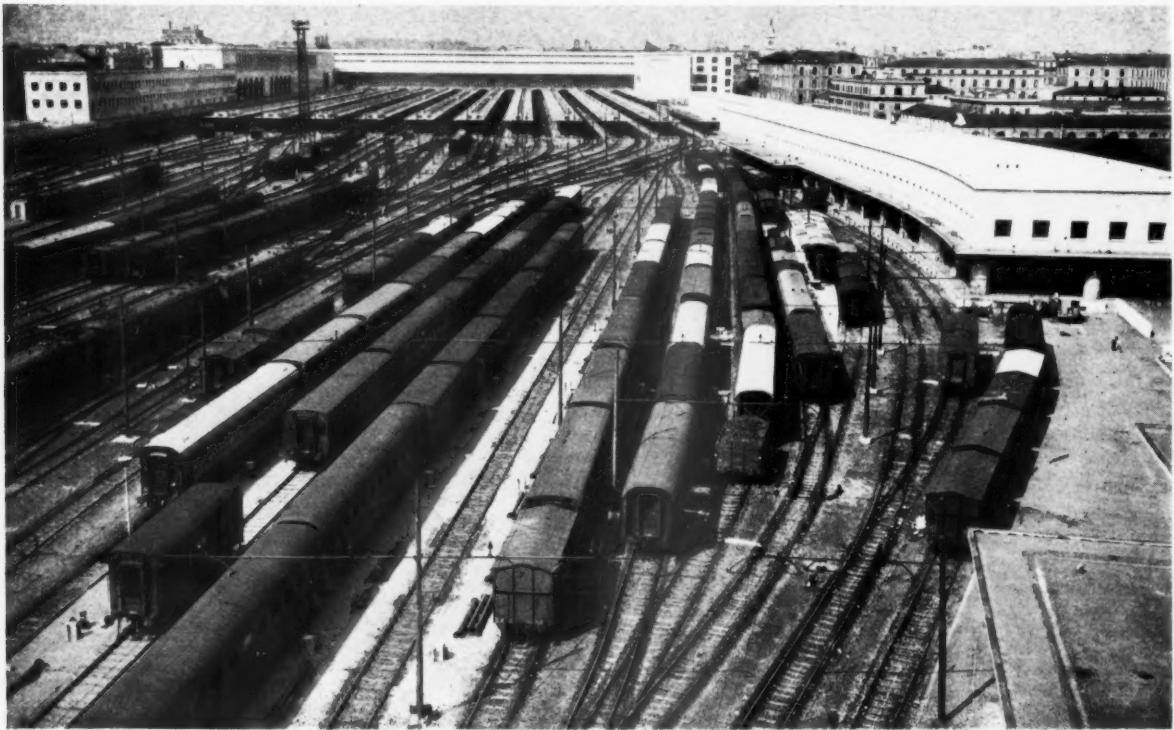
(b) lines which the Governments consider should be kept open indefinitely, and which, as they are prepared to commit themselves to maintain, must be valued at least for the unexpired life at current replacement cost.

Purchase on any other principles would amount to confiscation, or involve the Governments in unnecessary expenditure. The principles outlined are, of course, applicable to any privately-owned railway concern, and not only to the Great Northern Railway Company (Ireland) which merely illustrates them.

New Passenger Terminus in Rome

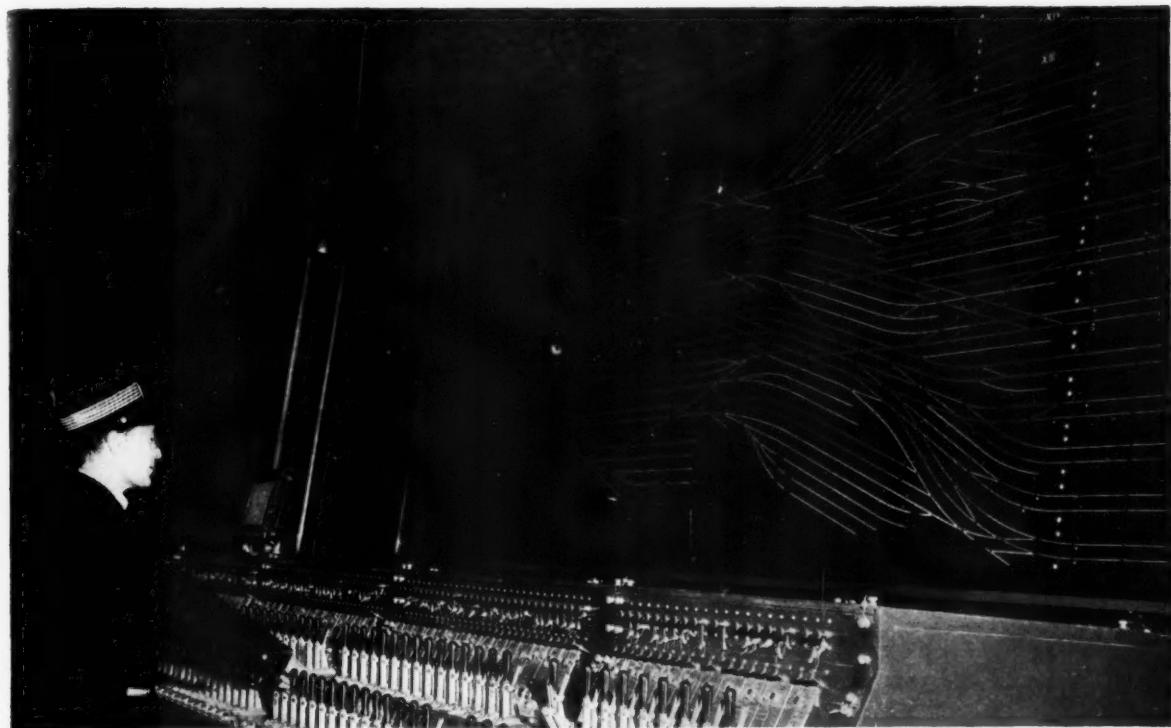


Façade of new terminus, showing (centre) booking hall. The Metropolitan railway, when built, will run transversely under the square in the foreground



Passenger platforms and carriage sidings. Rolling stock includes (in centre) new four-wheel coaches and (on left) a three-coach electric multiple-unit set ("elettrotreno")

New Passenger Terminus in Rome



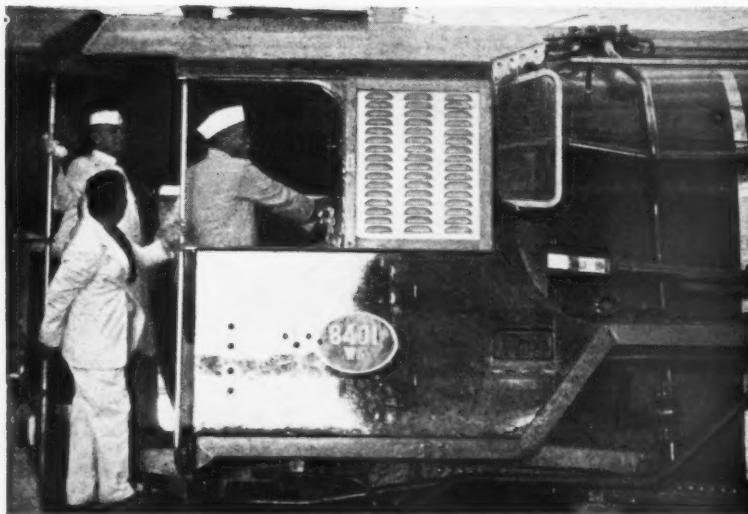
Central panel in 730-lever cabin controlling all movements at Rome Termini. The cabin adjoins the sidings beyond the short suburban platforms (top right of panel)



Café restaurant with view (left) through to concourse. The café is on the ground floor of the transverse block forming the façade of the station, with offices above

First Locomotive from Chittaranjan

Ceremonial naming of the works by the Indian President



The Indian President driving the first locomotive assembled at Chittaranjan

THE President of the Indian Republic, Dr. Rajendra Prasad, performed on November 1 the naming ceremony of the Indian Government locomotive workshops at Chittaranjan, about 148 miles from Calcutta, near the



Board on the front of the locomotive for the President's visit

border of West Bengal and Bihar. The works, established with the technical assistance of the Locomotive Manufacturers' Association, London, and the first to be built in India specifically for the manufacture of locomotives, is expected to be the largest of its type in Asia. Details of the inauguration of the works on January 24, 1950, and a brief description of the project, appeared in our February 17, 1950, issue. The production programme was outlined in an editorial in our December 22, 1950, issue.

Immediately after the naming cere-



Mr. P. C. Mukerjee, General Manager of the works, making his speech to the Indian President

mony, which was attended by the Minister of State for Railways, and the Prime Minister of Bengal, the President started the first locomotive assembled at the workshops, and named it *Deshbandhu*, after the late Deshbandhu Chittaranjan Das, the Indian nationalist

whose memory is also commemorated in the name of the works itself.

Mr. P. C. Mukerjee, General Manager of the Chittaranjan Works, said that locomotive components would also be produced during the initial period. Components now manufactured would be used for locomotives to be made next year and thereafter. He added "By 1954, locomotives turned out here will be completely of Chittaranjan manufacture, apart from some special items."

The Minister for Railways, Mr. Gopalaswami Ayyangar, in a message sent on the occasion, said: "These works constitute a landmark in the history of railway development in India. They are an important link in the chain of improvements which are calculated to pave the way for eliminating our dependency on foreign supplies of rolling stock."

According to existing plans, complete locomotives will be made at Chittaranjan in 1954, and within two years

after that, half of the 220 locomotives estimated to be required annually by the Indian railways will come from the Government plant. The remainder will be made by Tata Locomotive & Engineering Co. Ltd., Telco Works, Tatanagar.

RESORTS AS "DORMITORIES" FOR THE FESTIVAL OF BRITAIN.—A plan to use towns near London as dormitories for Festival of Britain visitors and so relieve pressure on hotels in London is now being worked out by the British Travel & Holidays Association in conjunction with vari-

ous local authorities. British Railways have already announced special late services to the south coast resorts which will also serve other possible dormitory towns en route. Welcoming this announcement, Sir Alexander Maxwell, Chairman of the British Travel & Holidays Association,

stated recently that this decision will assist greatly in solving the accommodation problem. Visitors will be able to enjoy all the facilities of the resorts of the south and the attractions of London, and get back to their hotels without cutting short visits to theatres and the Festival itself.

RAILWAY NEWS SECTION

PERSONAL

RAILWAY EXECUTIVE CHAIRMANSHIP

Sir Eustace Missenden has intimated to the British Transport Commission his desire to be released from the Chairmanship of the Railway Executive, which he has held since the formation of the Executive three years ago. The Minister of Transport and the Commission have accepted the resignation of Sir Eustace Missenden with regret, and desire to record their appreciation of the outstanding ser-

vices the construction of the four existing underground stations. After a period as Resident Engineer, Maintenance, he was appointed, in 1938, Supervising Engineer, Construction, to commence work on the construction of the new Hawkesbury River Bridge. In May, 1940, he enlisted in the 2nd A.I.F. and was appointed to command the Railway Construction Group overseas, which group carried out important railway work in the Middle East. For that work he was awarded the O.B.E. and mentioned in despatches. On his return to the

nationalisation of the railways, he became President of the Transport Tribunal, which, under the provisions of the Transport Act, 1947, superseded the Railway Rates Tribunal. When, at the request of the Minister of Transport, the Rates Advisory Committee undertook the examination of the rates and charges structure of the railways, which resulted in the recommendations on which Part III of the Railways Act, 1921, was largely based, he appeared with Sir John Simon, Sir Lynden Macassey, and the late Mr. F. T. Barrington.



Mr. K. A. Fraser

Appointed Chief Civil Engineer, New South Wales Government Railways

vices which he has rendered during the last three years.

We regret to announce the death, at the age of 94, of Mr. W. Purcell O'Neill, who retired from the position of Chief Engineer, Midland Great Western Railway, Ireland, in 1918.

Mr. K. A. Fraser, O.B.E., A.M.I.E. (Aust), M.Inst.T., Chief Engineer, Transport & Highways Commission, New South Wales, who, as recorded in our December 1 issue, has been appointed Chief Civil Engineer, New South Wales Government Railways, was born in 1893. He entered the railways service in 1911 as a cadet, and was employed on deviation and duplication works. He enlisted for active service in January, 1915, and served three years in France with the 12th Field Company (Engineers) as Lieutenant. In 1922 he was appointed Resident Engineer for the Sydney City Underground Railway, and super-

vised the construction of the four existing underground stations. After a period as Resident Engineer, Maintenance, he was appointed, in 1938, Supervising Engineer, Construction, to commence work on the construction of the new Hawkesbury River Bridge. In May, 1940, he enlisted in the 2nd A.I.F. and was appointed to command the Railway Construction Group overseas, which group carried out important railway work in the Middle East. For that work he was awarded the O.B.E. and mentioned in despatches. On his return to the



Sir William Bruce Thomas

President, Railway Rates Tribunal, 1932-48; President, Transport Tribunal, 1948-50

Department of Railways in 1943, he resumed in his previous capacity, and had the supervision of all construction work being carried out by the department. In 1945 he was appointed Assistant Chief Civil Engineer, Construction, and after becoming Deputy Chief Civil Engineer in 1946, was transferred to the Transport & Highways Commission as Chief Engineer.

Sir William Bruce Thomas, K.C., whose appointment as President of the Transport Tribunal expires on December 31, was born in 1878, and called to the Bar in January, 1912. He is a Member and Bencher of the Middle Temple, and took Silk in 1928. He has had a long experience at the Parliamentary Bar and practised before the Rates Advisory Committee, the Railway and Canal Commission and the Railway Rates Tribunal, previous to his appointment as President of the Railway Rates Tribunal in 1932. After

ton Ward for the railway companies. He was also engaged in the preparation and presentation of many amalgamation schemes before the Railways Amalgamation Tribunal. In the interest of the railways, he took a prominent part in the proceedings connected with the revision of railway rates and charges following the passing of the Railways Act. As President of the Railway Rates Tribunal, he was Chairman of the Charges (Railway Control) Consultative Committee of 1940, which was set up under the agreement between the Government and the undertakings controlled by the Railway Executive Committee to advise the Minister of Transport on the adjustment of charges to produce the revenues required to meet extra wartime expenditure. He was also Chairman of the Charges Consultative Committee which advised the Minister on the applications for certain increases in charges in 1946, and in January of this year. He received the honour of knighthood in 1941.

*Mr. F. C. Hockridge*

Surveyor & Estate Agent, G.W.R., and
Western Region, British Railways,
1942-50

*Mr. R. G. Henbest*

Appointed Estate & Rating Surveyor,
Western Region

*Mr. G. Herbert Lash*

Appointed Director of Public Relations,
Canadian National
Railways

Mr. F. C. Hockridge, Surveyor & Estate Agent, Western Region, British Railways, who, as recorded in our November 24 issue, is retiring on January 1, 1951, began his career in the Secretary's Office of the Taff Vale Railway, and remained with that company until the passing of the Railways Act in 1921. He was retained at Cardiff in connection with the winding-up of the South Wales Railways until 1924, when he transferred to Paddington, and became responsible for estate and kindred matters in the Secretary's Office. In 1926, he was appointed Secretary of the Fishguard & Rosslare Railways & Harbours Company, and held that post until 1929, when he became Assistant to the Surveyor. He was promoted to the post of Assistant Surveyor & Estate Agent in 1931, and became Deputy Surveyor & Estate Agent in 1941. Mr. Hockridge succeeded the late Mr. F. W. Showers as Surveyor & Estate Agent, G.W.R., in 1942, and continued in

that capacity with the Western Region of British Railways after the passing of the Transport Act, 1947. In addition to his Fellowship of the Royal Institution of Chartered Surveyors and membership of the Rating Surveyors' Association, Mr. Hockridge has been a Fellow of the Chartered Institute of Secretaries and the Association of Certified and Corporate Accountants for 32 years. He is Chairman of the Great Western (London) Housing Association Limited and of the Committee of Management of that Association. For some years he has been a Director of the Welsh Town-Planning & Housing Trust Limited. At a luncheon at Paddington held on December 21, Mr. F. C. Hockridge, Surveyor & Estate Agent, Western Region, British Railways, was the recipient of a presentation by Mr. K. W. C. Grand, Chief Regional Officer. The luncheon was attended by Sir James Milne, formerly General Manager, G.W.R., Mr. F. W.

Hawksworth, formerly Chief Mechanical Engineer, G.W.R. and by Mr. F. R. E Davis, formerly Secretary of the Great Western Railway Company, as well as by some thirty present and past Officers. Tributes to Mr. Hockridge were paid by Mr. Grand, Sir James Milne, Mr. Cyril Dashwood (Chief Accountant, Western Region), Mr. Gilbert Matthews (Operating Superintendent, Western Region), Mr. Davis, Mr. David Blew (Member, Railway Executive), and Mr. A. S. Quartermaine (Chief Engineer, Western Region).

Mr. R. G. Henbest, F.R.I.C.S., Estate & Rating Surveyor, Southern Region, who, as recorded in our November 24 issue, has been appointed to be Estate & Rating Surveyor, Western Region, as from January 1, 1951, joined the estate office of the S.E.R. in 1915, and was appointed technical assistant in 1927. From 1933 to 1936 he was responsible for negotiations for the sale

*Mr. K. R. M. Cameron*

Appointed District Motive Power Superintendent,
Kings Cross, Eastern Region

*Mr. J. M. Southey*

Appointed Research Engineer, Office of Chief
Civil Engineer, South African Railways

*Mr. W. O. Gay*

Appointed Assistant Chief of British
Transport Police, Eastern Area

and purchase of estate in the Eastern Section of the Southern Railway. In 1936 he took charge of development matters, and acted as Personal Assistant to the Estate & Rating Surveyor. During the last war he dealt with matters arising out of emergency legislation, including the settlement of compensation for the occupation of Southern Railway property by the Services and other Government Departments. Mr. Henbest was appointed Estate Assistant to the Estate & Rating Surveyor, Southern Railway, in 1941, and Estate & Rating Surveyor, Southern Region, British Railways, in 1948.

Mr. G. Herbert Lash, M.C., Deputy to the Director of Public Relations, Canadian National Railways, who, as recorded in our November 3, 10 & 17 issue, has been appointed Director of Public Relations, was born in St. John's Newfoundland, in 1894, and educated at St. Andrew's College, Toronto. He joined the staff of the *Mail and Empire* in Toronto in 1912. After war service in 1915-18 during which he was awarded the Military Cross and Bar and mentioned in Despatches, he resumed his newspaper work with the *Mail and Empire* in 1919, and, when that publication acquired the *Sunday World*, was appointed Managing Editor. Mr. Lash joined the C.N.R. as Publicity Representative at Montreal in 1923, and after occupying a number of posts, returned to Montreal in 1948 as Assistant to Mr. W. S. Thompson, then Director of Public Relations. During the royal tour of Canada in 1939, Mr. Lash was Assistant to the Chairman of the Press Arrangements Committee. In 1940, Mr. Lash was appointed Director of Public Information for Canada, which position he occupied until September, 1942, when he returned to his railway work as Deputy to the Director of Public Relations.

Mr. J. A. Frampton, M.I.Loco.E., District Motive Power Superintendent, Kings Cross, Eastern Region, who, as recorded in our December 15 issue, has retired, entered the service of the G.N.R. in the locomotive works at Doncaster in 1902, and, after a wide experience in various grades, was appointed Assistant to District Locomotive Superintendent, Hatfield, in 1913. In 1919, he took up the position of Locomotive Shed Foreman at Bradford and was appointed Assistant to District Locomotive Superintendent, Ardsley, in 1920; Mr. Frampton moved to Stratford in 1930, as Assistant District Locomotive Superintendent. He was appointed District Locomotive Running Superintendent, Norwich, in 1932, and in 1935 took up the corresponding post at Lincoln. In 1941 he was appointed District Locomotive Running Superintendent, Kings Cross, and he became District Motive Power Superintendent, Kings Cross, in 1948, when the post was redesignated.

Mr. K. R. M. Cameron, M.I.Loco.E., District Motive Power Superintendent, Gorton, Eastern Region, who, as recorded in our December 15 issue, has been appointed District Motive Power Superintendent, Kings Cross, graduated B.Sc. with first class honours in mechanical engineering at Glasgow University and obtained the diploma of the Royal Technical College with distinction in mechanical engineering design. He joined the L.M.S.R. at St. Rollox Works in 1925 and was appointed Assistant Foreman, Locomotive Erecting Shop, Crewe, in 1931. He went to Derby as Technical Assistant, Central Order Office, in 1934 and a year later returned to

Scotland as Maintenance Assistant to the Superintendent of Motive Power, Glasgow; in 1939 he took charge of Carstairs Motive Power district. He had been commissioned in the Supplementary Reserve of Royal Engineers in 1931, and, on mobilisation in 1939, became Electrical & Mechanical Officer, Shoeburyness Experimental Establishment. He proceeded to Egypt in 1941, and in 1942 took command of the Military Railways Workshops at Jaffa, Palestine; in 1944 he was promoted Lt.-Colonel commanding No. 2 Railway Workshop Group. He became Assistant Director of Transportation (Mech.), Railways & Docks, Middle East Command in 1945 and on his return from overseas the same year, was appointed District Locomotive Superintendent, Perth; he went to a similar position at Corkerhill, Glasgow, in 1946. On the reorganisation in 1949, he was redesignated District Motive Power Superintendent, Ayr District, and was appointed to the corresponding position at Gorton in May of the same year. He holds the rank of Lt.-Colonel in the reconstituted Royal Engineers Supplementary Reserve, and commands No. 80 Railway Workshop Regiment, R.E.(S.R.).

Mr. J. M. Southey, O.B.E., B.Sc., A.M.I.C.E., Professional Assistant to the Chief Civil Engineer, South African Railways, who has been appointed Research Engineer, Office of the Chief Civil Engineer, was born in 1893. During 1916-17 he served with the Royal Engineers in East Africa, and, after graduating at Cape Town University, joined the South African Railways in 1921. He was associated with railway construction work until 1924, when he was transferred to the Maintenance Department. Following a number of appointments in the District Engineer grade, he went to East London to take up the position of System Engineer in 1939. From 1940 to 1943 he was with the South African Engineering Corps and at the time of his recall to civil duties held the rank of Lt.-Colonel. After a short period as System Engineer in the General Manager's Office at Headquarters, Johannesburg, he was appointed Inspecting Engineer, Office of the Chief Civil Engineer, and was transferred to the General Manager's reconstruction branch in 1943. He became Assistant Chief Technical Officer (Reconstruction) in 1945 and following the amalgamation of the Chief Technical Officer's branch with the Chief Civil Engineer's Department in 1948, was appointed Assistant Construction Engineer. Mr. Southey became Professional Assistant to the Chief Civil Engineer in 1949.

Mr. W. O. Gay, formerly of the Midland Area Headquarters Special Branch, British Transport Police, who has been appointed Assistant Chief of Police, Eastern Area, British Transport Commission, was educated at Palmers School, Grays, and at Oxford. He joined the G.W.R. Police in 1936, was appointed Detective Sergeant in 1938, and shortly afterwards was selected for special wartime duties at Headquarters. In 1946 he went to Birmingham as Chief Inspector of the Northern Division and in 1949 transferred to the Headquarters of the Midland Area, when the Railway Police were reorganised as the British Transport Police.

Mr. C. F. Ibbotson, Acting Assistant to the Operating Superintendent (Rolling Stock) York, who has been appointed Assistant to the Operating Superintendent (Rolling Stock) Eastern and North Eastern Regions, British Railways, joined the North

Eastern Railway in 1916, in the Office of the Yard Master, Leeds (Wellington Street). He became a traffic apprentice in 1924 and after undergoing a three-year period of training joined the L.N.E.R. Central Wagon Control, York, in 1927, serving as Head Office Inspector for two years. Mr. Ibbotson served in various posts in that department until 1941, when he took charge of the newly-formed Central Coaching Stock Control.

Mr. C. A. Malone has been appointed a Director of Bury & Co. Ltd., Sheffield.

We regret to record the death at the age of 64 of Mr. H. L. Pennock, one time Stores Superintendent, Central Uruguay Railway.

Mr. F. L. Houghton, Assistant (Freight Rates), British Railways, London Midland Region, has retired.

Mr. J. H. Benford, Joint Commercial Manager, London Transport Executive, is retiring on January 6, 1951. Mr. D. McKenna, Joint Commercial Manager, has been appointed Commercial Manager and will assume full responsibility for the work of the Commercial Department.

We regret to record the death on December 22 of Mr. S. Guy Newton, Joint Managing Director of Brown, Bayley's Steel Works Limited and Chairman of the Hoffman Manufacturing Co. Ltd.

Sir William Sharpe, Chairman, and Mr. R. de K. Maynard, Director, West of India Portuguese Guaranteed Railway, are paying a short visit of inspection to that railway and Mormugao harbour in January, and will have discussions with officers of the Madras & Southern Mahratta State Railway at Madras.

We regret to record the death on December 21 at the age of 64 of Mr. M. B. Dewar, a Vice-President of the Federation of British Industries and Chairman of British Timken Limited. From 1922 to 1927 he was Managing Director of the Metropolitan Carriage Wagon & Finance Co. Ltd.

SOUTHERN REGION APPOINTMENTS
The Southern Region has announced the following appointments:

Mechanical & Electrical Department

Mr. H. H. Sennett, to be Outdoor Machinery Assistant, Brighton.

Mr. S. T. Wilcox, to be Plant Assistant, Outdoor Machinery Section, Brighton.

Mr. H. S. Smyth, to be General Assistant (Electrical), London Bridge.

Mr. F. T. Muncey, to be Maintenance Engineer (Electric Rolling Stock), London Bridge.

Mr. G. W. Golds, to be Lighting Assistant, Brighton.

Carriage & Wagon Department

Mr. S. G. Smith, to be Chief Carriage & Wagon Draughtsman, Eastleigh.

Mr. J. E. Scammell, to be Outdoor Carriage Wagon Assistant (other than London), London Bridge.

Mr. J. S. Cartlidge, to be Outdoor Carriage & Wagon Assistant (London Area), London Bridge.

Common Services: Mechanical & Electrical and Carriage & Wagon Departments

Mr. W. G. Ducker, to be Staff Assistant, Brighton.

Ministry of Transport Accident Report

*East Shalford Crossing, British Railways,
Southern Region: February 1, 1950*

Colonel D. McMullen, Inspecting Officer of Railways, Ministry of Transport, inquired into the accident which occurred at 12.11 p.m. on February 1, 1950, at East Shalford public level crossing. Southern Region, when the 8.58 a.m. down express, Ramsgate to Birkenhead, composed of 9 bogie coaches hauled by a 2-6-0 tender engine and travelling at 56 m.p.h., as shown by recording apparatus which happened to be on the train, ran down a private car, killing the two occupants instantly. The car was thrown off the track and rolled over; the train stopped in 480 yd. The woman gatekeeper, aged 19, had inquired of Shalford signalbox whether it was safe for the car to pass over and was informed that the gates should not be opened as a train was approaching on the down line; an up train then passed and she opened the gates. It was raining heavily and there was a strong wind. The accompanying diagram shows the principal circumstances involved in the case.

The Level Crossing

When the line was authorised in 1846 the road was intended to be passed under it, but an Act of 1849 allowed the crossing

due to arrive or pass after being block signalled in the ordinary course.

Before opening the large gates for the passage of road traffic over the crossing the crossing keeper must ascertain from the nearest signal box in circuit, by means of the telephone provided, whether there is in the section any train approaching the crossing from either direction, and if there is sufficient margin available to enable the crossing to be used and the gates again closed and locked across the roadway at least five minutes before a down or an up train is due to arrive or pass.

In the event of a failure of the telephone the crossing keeper must, before opening the gates, satisfy himself that it is safe to do so.

Evidence

Visibility was poor on account of the rain and both driver and fireman were looking for the Shalford distant signal; the fireman picked it up first, as was usually the case, just before coming to the crossing. He was about to tell the driver when the latter, who had seen the car moving slowly over the track only 5 to 10 yd. off, made a full brake application. The fireman did not see the car, but went forward to inform the Shalford Station staff; after

sure it was safe. She had not noticed that these two trains passed each other regularly near there and said that the signalmen, replying to telephone inquiries, had previously always mentioned when trains were approaching from both directions. She admitted being told that the line towards Chilworth was "up" and the one towards Shalford "down," but sometimes became confused as to which was which. She had not asked anyone to clarify the point. It was far more usual for the signalman to refer to a "train coming from Shalford" (or Chilworth) as the case might be. On Sundays Shalford and Chilworth signalboxes were closed and she would telephone to Shalford Junction for permission to open. Asked who was responsible for maintaining the margin of 5 min. (paragraph 2 of the instruction) she replied "the signalman, I think; I am not quite sure." She could not remember what the nearby signals were and did not rely on them.

The signalman at Shalford box had been under instruction for 11 weeks and was passed as signalman only about 25 min. before the accident, by the inspector, who was still in the box. He accepted the train involved at 12.6 p.m. and received

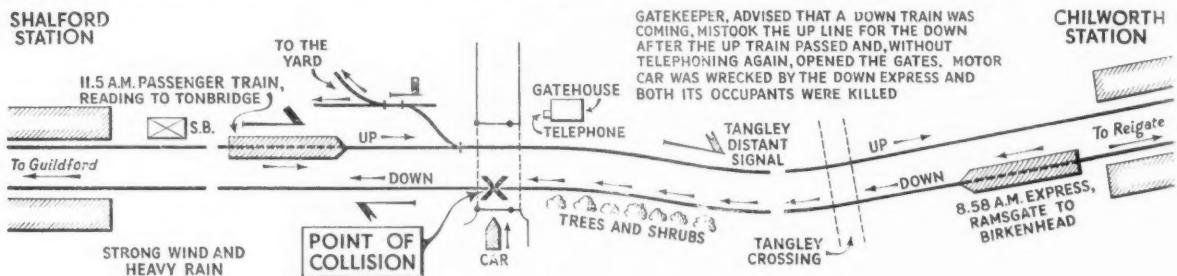


Diagram showing circumstances of accident at East Shalford Crossing on February 1, 1950

to be made instead and stipulated that attendance should be provided. Its north (up line) side first comes into the view of a driver of a down train when he is about 400 yd. away, a full view being obtained only at 200 yd. and even then he could not see clearly whether the gates are open, or closed, as they open away from the line. They are of the ordinary field type, 12 ft. wide, without targets or lamps and have chains and padlocks; they are normally locked against road traffic. There are no signals, no bell in the block circuit and no indicators, as the block on this section is 2-position, but there is a 2-way calling telephone on an omnibus circuit, to which the signalmen in the adjacent boxes all have connections. A census taken shortly after the accident disclosed that the gates were opened 10 times in 24 hr., though at the previous one, in 1935, the figure was 50. About 45 trains pass daily at speeds up to 60 m.p.h.

Operating Instructions

The following instructions were issued in July, 1949, all previous ones being cancelled by them:—

The large gates and wickets at this level crossing must be worked in accordance with Rules 99 to 102 and 104 to 107 inclusive.

The large gates, which must be kept normally closed and locked across the roadway, must be maintained in that condition for five minutes before a down or an up train is

some 6 min. the train was drawn forward into that station.

The gatekeeper had been appointed on November 7, 1949, after the death of her sister, the previous gatekeeper and wife of a lengthman. She lived in the cottage, looking after her brother-in-law's child. She said that soon after mid-day the car required to pass over and she telephoned for permission, receiving a negative reply. She could not remember the signalman's exact words, but understood that she could open the gates after a down train had passed and replied "allright"; she could hear quite distinctly. Shortly after a train passed towards Chilworth. She looked both ways and, seeing no train, opened first the far-side gate then the near (south) one, but did not speak to the car occupants. After it was struck she went to the telephone to advise the signalman, but was told that somebody had done so.

The gatekeeper said she had been instructed and examined in her duties before taking charge and had read and understood the crossing instruction on which she had again been questioned by the inspector concerned and the assistant stationmaster at Guildford, who visited in January 1950. She thought that the instruction allowed her to open the gates after a train had passed without telephoning a second time, if signalmen instructed her accordingly, as they frequently did, and she was

"train entering section" at 12.10. At 12.7 he had accepted from Shalford Junction the up train (11.5 a.m. Reading to Tonbridge); this was at once accepted by Chilworth. As it was passing at 12.9 the gatekeeper telephoned for permission to open the gates and he replied "No, not yet, there is a train coming down." She replied "allright." He intended her to ring again when the down train had passed and for that reason did not mention the up train, which he knew would pass the crossing first. The express stopped near his distant signal and immediately after the telephone rang, when a shunter in Shalford yard informed him of the accident.

On the few occasions when he had spoken to the gatekeeper, he had referred to trains as being "up," or "down." Once or twice he had refused permission for the gates to be opened, but had never given a conditional permission for that to be done after the passage of a train, for by the time one had passed another might have been accepted. He had not read the instructions for the crossing. There was none in the box and he knew nothing about the margin of five min. mentioned in them. He said, however, that he had been taught that if the up advanced starting signal was "off," or a train had been accepted on the down line, permission to open should not be given.

The area inspector, who had found the

signalman capable and had finally passed him on the day in question, was watching him work and heard him reply on the telephone "No, a down train is coming." He inquired a little later about this conversation and asked whether he was certain the gatekeeper had understood and the signalman said she had, as she replied "all-right." As the down train was mentioned and the up train would pass the crossing first he took it that the gatekeeper would call up again, but after consideration he thought it would have been more correct for her to have been told about both trains.

There was nothing in the instructions to say that a signalman should not give conditional permission for the gates to be opened after a train passed, but the inspector did not think it was correct action to take. He confirmed that there was no copy of the instructions in the box, but he had instructed all the signalmen not to give permission to open when signals were clear, or a down train had been accepted. As concerns the 5 min. margin, it was the gatekeeper's responsibility to maintain it. The running times of trains from the box were not displayed at the crossing but he thought the gatekeeper should know them.

He had visited the crossing with the assistant stationmaster at Guildford 12 days before the accident and saw the gatekeeper for the first time. Both of them formed the opinion that she was competent. The assistant stationmaster confirmed this and particularly remembered the gatekeeper being questioned about the up and down lines. She gave satisfactory replies about the rules concerning the telephone. He did not think that the crossing instructions allowed for conditional permission; when permission was refused the gatekeeper ought to ring again. He thought the signalman was responsible for maintaining the 5 min. margin.

Another assistant stationmaster at Guildford had examined the gatekeeper in November, 1949, after a fortnight's training, and was quite satisfied that she was fit to take charge. He pointed out clearly which was the up and which was the down line and made her do a practical test. On one occasion when permission to open had been refused she rang up a second time. His interpretation of the instructions was the same as that given by the other assistant stationmaster.

Inspecting Officer's Conclusion

The occupants of the car had every right to assume that it was safe to cross and the accident was brought about primarily by confusion between up and down lines on the part of the gatekeeper. She had been taught which was which and there was no valid reason why confusion should exist in her mind. If, however, she was in doubt over this matter she could have sought assistance locally from the station staff and also have asked for guidance from the area inspector or assistant stationmaster at Guildford, who visited 12 days before.

Colonel McMullen thinks that the reply given by the signalman to the telephone inquiry was intended to be definite and convey no indication that the gates might be opened when the down train had passed. It would have been wiser to have mentioned both trains and had the signalman done so the accident probably would not have occurred, but he had neither written nor verbal instructions on this point and it would be unfair to suggest that any responsibility rested with him. The gatekeeper, on the other hand, had certainly been instructed very fully that she should invariably telephone again after the passage of a train. She was not helped, how-

ever, by the crossing instructions and it seems that sometimes she had been allowed, though not necessarily by this particular signalman, to open the gates as soon as a particular train had passed. Colonel McMullen has no doubt that on this occasion she thought that the message intended her to do so. It was unfortunate that the inspector did not tell the signalman to send a further message that two trains were approaching. Although he was correct in his view that the crossing instructions did not specifically forbid the gatekeeper from opening the gates as soon as a particular train had passed, he was clearly mistaken in thinking that she was responsible for maintaining the necessary margin.

Remarks and Recommendations

This failure of the gatekeeper was due to two misunderstandings. For some reason she thought that an up train was a down one and wrongly interpreted a message from the box. It appears that the accident might have been avoided if her instructions had been more precise in detailing her duty and it is significant that they were interpreted differently by the area inspector and two assistant stationmasters, all responsible officials. The importance of wording such instructions so that their meaning cannot be misunderstood needs no emphasis and Colonel McMullen recommends that all crossing

instructions throughout the country should be reviewed to ensure this. When any responsibility is placed on a signalman, as in this case, it seems axiomatic that the crossing instructions should be clearly displayed in the signalbox or boxes concerned.

Had the gates closed alternately across road and railway the driver might have seen them at a distance of 40 yd. and braked. He would not have avoided striking them, but by that time the car would have passed. This point was commented on by Colonel McMullen in his report on the accident at Second Drove Crossing [see *The Railway Gazette* for July 21, 1950, page 78] which is in substance a public one, although there may be some doubt about its legal status. There is none concerning this crossing at Shalford, however, and public crossings are undeniably more safe when the gates close alternately across road and rail, a requirement in the case of all lines constructed since 1858.

Attention was drawn in the other report mentioned to the possibility of telephone misunderstandings. In this case the misunderstanding was one of intention and not attributable to use of a telephone, but Colonel McMullen hopes that it will soon be possible for the line to be equipped with 3-position block instruments and that indicators giving a reminder of the state of the section will then be provided at the crossing.

British Electric Traction Progress in 1950

Important home and overseas contracts for electric and diesel-electric rolling stock and other electrical equipment

During the past twelve months more important work has been undertaken by British manufacturers in connection with railway electrification schemes in this country and abroad. Below are given some particulars of progress made by two firms with work already completed or in hand and of new orders obtained during 1950. Much of the equipment referred to in this article has been described and illustrated in previous issues.

In the early part of the year the six 2,000-kW. 3,000-volt rectifier equipments supplied by The English Electric Co. Ltd. for the electrification of a section of the Estrada de Ferro Santos a Jundiai in Brazil were satisfactorily commissioned. This is believed to represent the first use of pumpless air-cooled multi-anode rectifiers for 3,000-volt traction duty. As a result of the continued satisfactory operation of these units an order for an additional 2,000-kW. equipment has been received in fulfilment of previously planned extensions. A 1,500-volt equipment was despatched to the New South Wales Government Railways for traction duty. For tramway and trolleybus services important orders were received from Glasgow and Helsinki.

Important orders received by English Electric for railway locomotives and traction equipments include 20 complete 3,600-h.p. 3,000-volt d.c. electric locomotives and 60 locomotive part equipments for the Spanish National Railways. For the Victorian Government Railways an order for 17 complete 2,400-h.p. 1,500-volt d.c. electric locomotives was obtained. Although these locomotives are to new designs not previously built their general arrangement will be somewhat similar to that of the 3,000-h.p. electric

locomotives now being delivered to the Estrada de Ferro Santos a Jundiai.

British Railways, Eastern Region and London Midland Region, have ordered forty-five 350-h.p. diesel-electric shunting locomotive equipments of the standard type previously supplied. When present orders are implemented The English Electric Co. Ltd. will have twelve of these complete locomotives and 199 complete power and electrical equipments for others of the same type in service on British Railways. For the Southern Region there are on order 124 360-h.p. 600-volt d.c. complete motor coach electrical equipments and 64 non-driving trailer equipments of the latest standard type. Imperial Chemical Industries Limited are taking four 350-h.p. diesel-electric shunting locomotives similar to those supplied last year.

Locomotives and traction equipments delivered by The English Electric Co. Ltd. in 1950 included 15 complete 5 ft. 3 in. gauge 3,000-h.p. 3,000-volt d.c. electric locomotives for mixed-traffic duty to the Estrada de Ferro Santos a Jundiai. These form part of the comprehensive contract placed with the company for the electrification of the 64-km. section between Mooca and Jundiai in the São Paulo State. The locomotives are the largest of their type to be built in Britain and their mechanical parts were made by the Vulcan Foundry Limited.

To the Tasmanian Government Railways fourteen 660-h.p. 3 ft. 6 in. gauge diesel-electric locomotives were delivered out of 32 ordered. These locomotives are of the Bo-Bo type designed for general service and they can operate either as single units or up to three as a multiple-unit. The six-cylinder diesel engines are supercharged. To the Netherlands Railways have gone

ten 400-h.p. 0-6-0 type diesel-electric shunting locomotives of the 25 on order. The Australian Iron & Steel Company has taken delivery of eight 800-h.p. diesel-electric power units and electrical equipments for use in heavy shunting at Port Kembla.

The Southern Region of British Railways has received ninety-seven 360-h.p. 600-volt d.c. complete motor coach electrical equipments and 39 non-driving and one driving trailer equipment; also two 1,750-h.p. main-line diesel-electric locomotive equipments. The London Midland Region has received twenty-five 350-h.p. diesel-electric shunting locomotive equipments.

G.E.C. Export Target Exceeded

For the second successive year the General Electric Co. Ltd. has exceeded the Government-set export target. Overseas shipments have indeed constituted a record in both value and volume. A repeat order for two mobile substations has been received from the Netherlands Railways, and for the New Zealand Government Railways eight 1,500-kW. 1,600-volt units have been built. The first British pumpless air cooled steel tank rectifiers in Belgium, three 630-kW. units, are now in commission on the Belgian National Light Railways. Rectifier equipment delivered includes also four 600-kW. installations for Melbourne Tramways and a 500-kW. grid controlled unit for New Delhi. Recent advances in design have improved the appearance of rectifiers and introduced the

withdrawable truck type of mounting for larger units.

The motor coaches and locomotive for the Estoril Railway, Portugal, have been delivered and the new design of light-weight pantograph is operating satisfactorily. The master controller is of the new pillar type and affords a more comfortable driving position than did the earlier desk mounted type. Another new type of controller is that for use with the diesel-electric shunting locomotives for Ceylon.

The electrical equipment for the forty 3030-h.p. 3,000-volt d.c. locomotives for the South African Railways is in course of manufacture. A number of components are complete and have been exhaustively tested. The first 505-h.p. traction motors are nearing completion. It is understood that these locomotives will be the most powerful in the world for 3 ft. 6 in. gauge. Modern railway power signalling employs multi-contact relays involving the termination of large numbers of wires. The changing of such relays entails much work and the possibility of errors with serious consequences. To avoid disturbing wire connections and to ensure quick and accurate replacement a complete range of detachable plug-in relays has been introduced by the General Electric Co. Ltd. Two sizes of relay accommodate all varieties of functions and contact requirements very compactly while maintaining usual standards of clearance and robustness.

Some comprehensive schemes embodying load bias bar protection are in service

in four 33-kV. substations on the Liverpool Street to Shenfield line of the Eastern Region of British Railways. A biased differential two-pilot feeder protection scheme has been developed for use on distribution networks where only low ratio or existing low output current transformers are available for operating the relays. Improvements in the relay for biased differential protection of generators give more rapid operation. Relays now operate in 50 milliseconds ($2\frac{1}{2}$ cycles on a 50 cycle supply). This does not impair their performance with respect to fault setting or the stability of the scheme. This system is being widely used for B.E.A. generating stations. For ring main or parallel feeder protective schemes a directional or earth-fault relay has been developed.

The Southern Region of British Railways has been supplied with a d.c. signalling system comprising four separate two-wire tandem systems with two telephone circuits. Three substations are at present controlled in each tandem system which can accommodate up to 20 substations. Investigations have been made to determine the useful area of mobile communication systems using a frequency of 465 Mc/s. Satisfactory results over 8-10 miles were obtained with transmitters on a high open site or in the centre of London. Intelligible signals were possible through curved railway tunnels up to a mile in length. Simple low-powered equipment as used in a "walkie-talkie" gave ranges of $\frac{1}{2}$ to 1 mile in the open and 60-100 yards inside a brick and steel-framed building.

Christmas at Montreal Central Station



Christmas decorations in the hall of Montreal Central Station, C.N.R., showing, in the centre, tableaux of Christmas celebrations in various countries

Parliamentary Notes

Transport (Amendment) Bill

The Conservative, Liberal and Independent peers in the House of Lords on December 12 joined to defeat the Government in the division as to whether the committee stage of the Transport (Amendment) Bill should be taken.

Lord Teynham, who moved that the House resolve itself into committee on the bill, said that as the bill was drafted, the licensing authority would have the responsibility of deciding whether or not the B.T.C. should be licensed to run both inside and outside the 60-mile radius; that point had now been met by an amendment. A complaint that there was no mention of statutory obligations being placed upon the independent haulier, had been met by setting down an amendment providing that "A" and "B" licence holders, when given permits to go outside the 60-mile limit, must conform to the charges scheme, if and when the scheme came into force.

During the second reading, continued Lord Teynham, the Government had said that the Commission had purchased a monopoly with the taxpayers' £70,000,000. On the contrary, neither singly or collectively did the undertakings now acquired by the Transport Commission have a monopoly, and therefore, the Commission had not purchased one. But there was no intention that the bill should interfere with the B.T.C. monopoly of long-distance transport, although they did intend to facilitate reasonable competition between nationalised industry and free enterprise.

Viscount Addison (Lord Privy Seal) said that if the bill went on the Statute Book it would not be possible for the B.T.C. to carry out its statutory duties. The Government had considered carefully whether it was possible to devise amendments to enable the bill to be passed without rendering completely impossible the working of the Transport Act. But this was impossible. In his long Parliamentary experience, this was the first time it had been sought to pass an act which made the working of another act still on the Statute Book quite impossible.

The motion was carried by 84 votes to 28, and the House went into committee.

Hauliers' Radius of Operations

On the question whether Clause 1 (increase of road hauliers' radius of operations) should stand part of the bill, Lord Lucas of Chilworth (Parliamentary Secretary to the Ministry of Transport) said the B.T.C. was compelled by statute to set up a monopoly, and had to pay for it. Nothing in the present bill could reduce this B.T.C. liability. He asked if it was intended that the new entry and continuance was to be allowed to upward of 51,000 operators without compensation to the Commission for the breaking of the monopoly; and, if it was intended to pay compensation, by whom would it be paid, and by what method. He next asked if it was proposed in the bill to relieve the B.T.C. of its statutory obligation to balance revenue and create proper reserves. The bill would enable the independent haulier to take the cream of the traffic. If, however, the Commission's obligation to pay its way was modified, from what source was the deficiency to be made up? If there were a State subsidy, the beneficiaries would be the independent hauliers, who would cream the traffic, and the providers of the benefit would be the taxpayers.

The organisation of British Road Services had been built up out of the acquired undertakings, including staffs taken over.

The Commission did not start a new fleet in competition with the independent hauliers, but merely took over a section of the hauliers and reorganised them for a particular job. Provision was made in the Transport Act for compensation to be paid to all those who were in previous employment. There was no provision in this clause to pay compensation to those who would now become redundant, and who might lose their jobs by that fundamental change in the Act.

Clause 1 was then agreed to.

On Clause 2, Lord Lucas said that having given every haulier a free run up to 60 miles from their operating centre in Clause 1, and thereby broken that part of the statutory monopoly, Clause 2 proceeded to abolish the monopoly in respect of traffic beyond that limit. That clause would transfer from the Commission to the licensing authorities the power to issue permits, which was a departure from the fundamental principles of the Transport Act, and not a mere change of issuing authority. The B.T.C. was intended to establish a monopoly of long-distance traffic for the ultimate purpose of integration, and it must be at the absolute discretion of the Commission whether it issued permits to other persons to carry traffic which they could not or did not themselves wish to carry. If private hauliers were able to abstract an undefined part of long-distance road haulage, the possibility of integration would have gone. Nothing was said in the bill as to the circumstances which the licensing authorities should have in mind in dealing with applications. The bill did not say whether applications for permits were to be advertised; whether opportunity was to be given to object, or whether there would be a hearing of objections.

Lord Teynham said his short answer was that they maintained that the Commission should not be judge in its own cause. Therefore, they suggested that the licensing authority should have power to modify or revoke any of the permits which it might be required to issue.

The clause was agreed to.

Application of Charges Scheme

Lord Rochdale moved a new clause, saying that it sought to enable the Transport Tribunal to require any independent haulier carrying traffic on permit beyond the 60 miles from his operating centre to comply with any charges scheme which might at any time be in force in respect of the haulage services of the Commission. It was left to the Tribunal to decide whether the Commission's charges scheme should be made to apply either in whole or in part to independent hauliers. He drew attention to the fact that the charges scheme could be applied "with or without alteration" to those independent hauliers; otherwise it might be difficult to apply to independent hauliers, without modification, an existing scheme designed for the Commission. He believed that the clause should go some way to counter what Lord Lucas had said—that those who had no stake in long-distance haulage could march in and grab it free. If the Committee agreed to the new clause, independent hauliers, to retain their permits would have to conform to the charges scheme, while to retain their customers they would still have to offer personal attention and efficiency.

After further discussion the new clause was agreed to.

On Clause 3 (licences required for goods vehicles of the Commission), Lord Teynham moved two amendments. The first was designed to provide that licences should be required for the B.T.C. vehicles only when

operating in the short-distance area. He agreed that it would be wrong for the Commission in its own monopoly area to be required to obtain a licence. The second amendment covered vehicles used for excluded traffic such as liquids in bulk.

The amendments were adopted, and Clause 3, as amended, was agreed to, and also the remaining amendments, and the clauses and schedule, and the committee stage was concluded.

Questions in Parliament

Traffic with Northern Ireland

Sir Ronald Ross (Londonderry—C.) on December 15 asked the Minister of Transport what steps he was taking to meet the transport difficulties between Northern Ireland and Great Britain.

Mr. Alfred Barnes in a written answer stated: The main difficulties were those relating to the high cost of transport, due to long distances from markets and sources of supply. These costs must be considered in connection with other matters affecting the economic position of Northern Ireland.

Staff & Labour Matters

Railway Wage Claims

On medical advice Lord Porter, whose appointment as chairman of the court of inquiry to adjudicate on the railway unions' wage claims was announced in our last week's issue, has asked the Minister of Labour to relieve him of the chairmanship. The Minister has appointed Mr. C. W. Guillebaud, Lecturer in Economics at Cambridge University, to fill the vacancy. Mr. Guillebaud was chairman of the court of inquiry into railwaymen's wages set up by the Minister of Labour in June, 1947. The first meeting of the new court is to be held today (Friday).

Contracts & Tenders

The following contract has recently been placed for the Gold Coast Railway by the Crown Agents for the Colonies:—

Gloucester Railway Carriage & Wagon Co. Ltd.: 50 3 ft. 6 in. gauge bogie covered goods wagons of 20 tons capacity.

British Railways, London Midland Region, has recently placed the following contracts:—

Davidson & Co. Ltd., Morris House, 1-5, Jermyn Street, London, S.W.1; renewal of ventilation fan in St. Pancras tunnel.

Mellowes & Co. Ltd., Corporation Street, Sheffield; patent glazing to Cricklewood carriage shed roof.

Robertson Building Service, Wolverhampton Corrugated Iron Co. Ltd., Ellesmere Port, Wirral, Cheshire; R.P.M. sheeting to Cricklewood carriage shed.

Arnold Sharrocks Ltd., 229, Spotland Road, Rochdale, Lancs.; labour in connection with the cleaning and painting of Rochdale passenger and goods stations.

Wellerman Bros. Ltd., Dun Street, Sheffield 3; resurfacing of decks and alteration to cart bays at Corkie Preston Street goods shed.

Holst & Co. Ltd., Netherfield, Berkhamsted, Herts.; a concrete barrel vault roof at St. Pancras coal bay, Pancras Road.

Carter Horseley (Engineers) Limited, Carlton House, Jesmond Road, Newcastle-on-Tyne 2; demolition of part of the roof over platforms 4-10 at Manchester, Victoria.

Redpath Brown & Company, Trafford Park, Manchester 17; supply, delivery and erection of steelwork at Liverpool Brunswick Dock railhead depot.

W. H. Heywood & Co. Ltd., Bayhall Works, Huddersfield; patent glazing to Morecambe (Promenade) station roof.

Notes and News

Railway Benevolent Institution. — On December 19 the board of the Railway Benevolent Institution granted annuities to five widows and seven members involving an additional liability of £209 9s. a year also 35 gratuities were granted amounting to £417 10s. to meet cases of immediate necessity. Grants made from the casualty fund during November amounted to £409 9s. 6d.

Stewarts and Lloyds. — The directors of Stewarts and Lloyds Limited have declared an interim dividend of 6 per cent. on the deferred stock for 1950 and at the same rate relatively on the liaison deferred shares. The board states that the total distribution will not exceed 12½ per cent. "owing to the operation of the Iron & Steel Act." In recent years the company has normally paid one dividend of 12½ per cent. on the deferred shares towards the end of May.

B. & S. Massey Limited : Dividend. — At a meeting of the directors of B. & S. Massey Limited on December 14, it was decided to pay on January 18, 1951, an interim dividend of 10 per cent., as compared with 7½ per cent. last year on all the ordinary shares of 5s. each in respect of the year to March 31, 1951. The increased interim dividend does not indicate an increased final and bonus distribution. At this meeting Mr. Humphrey G. Taylor was appointed Chairman of the company.

Lord Hurcomb Tours North West England. — From December 13-16, Lord Hurcomb, Chairman of the British Transport Commission, accompanied by Mr. J. H. Brebner, Chief Public Relations & Publicity Officer, Mr. Miles Beevor, Chief Secretary, B.T.C., and Major-General G. N. Russell, Chairman of the Road Haulage Executive, paid a visit to the north west. On December 14 there was an inspection of the North Western Division of British Road Services workshops and stores at Preston and

Blackburn and on the next day a further road haulage inspection took place at Morecambe. Before returning to London on December 16 the party inspected the docks and coast erosion works at Silloth and railway depots at Carlisle.

"Mid-Day Scot" Acceleration. — As from Monday, January 1, 1951, the "Mid-Day Scot" between Glasgow and London, will be accelerated by 15 min. From New Year's day the train, which at present leaves Glasgow (Central) for London (Euston) each weekday, at 1.15 p.m., is being retimed to leave Glasgow at 1.30 p.m.; the arrival time of 10.9 p.m. at London (Euston) will be maintained. Of the total acceleration 12 min. is being secured by an alteration in the combination arrangements with the 12.14 p.m. ex Perth at Carstairs. At present the Perth train arrives at Carstairs after the "Mid-Day Scot" from Glasgow, but in future this order will be reversed. The balance of three min. running time is gained on the London Midland Region.

Leopoldina Railway Sale Agreement. — The directors of the Leopoldina Railway Co. Ltd. announce that advice has been received from Brazil that the law providing for the ratification of the sale agreement of May 26, 1949, has been sanctioned by the President of the Republic under date of December 20, 1950.

United Steel Companies Limited. — The net profit of the United Steel Companies Limited during the year ended June 30 amounted to £4,171,945 and showed an increase of £1,236,814 on the previous year. Also an amount of £250,000 no longer required in the provisions for taxation was brought into account. The ordinary dividend was maintained at 8 per cent. with a recommendation for a final dividend of 5½ per cent. After charging pension fund contributions, taxation, and taking into account tax relief on capital expenditure, the balance available for appropriation was £1,578,945, as compared

with £827,008 last year. A sum of £1,000,000 was placed to reserve, and, after allowing for dividends, the balance carried forward amounted to £620,066.

Increased Holiday Travel Allowance. — The Treasury has increased the holiday travel allowance for British tourists from £50 to £100 a year for adults, and from £35 to £70 for children under 15. The travel year will still be counted from May 1 to April 30, but the increase takes effect at once. The increased allowances are available for travel to most countries in Europe (including Czechoslovakia, Greece, and Yugoslavia) and to certain countries in the Near and Middle East (including Egypt, Israel, and Persia) and in South America.

Tribute to Scottish Region Staff. — Mr. T. F. Cameron, Chief Regional Officer, through the medium of the Scottish Region edition of the *British Railways Magazine*, conveys a New Year message to the staff in which he refers to the fact that the past year has shown in all directions marked improvements in working, which would not have been achieved without close co-operation on a broad scale between all grades of staff. Mr. Cameron expresses his thanks to the staff for the unfailing spirit which had enabled them to deal with the various emergencies which arose from time to time.

American Locomotive Company Results. — A special year-end dividend of 40 cents a share of common stock was declared on November 30 by the directors of the American Locomotive Company in addition to a dividend of 25 cents for the quarter ending December 31. The total declared for the year amounts to \$1.40 a share, which is equivalent to dividends paid in 1949, although the company had reduced the dividend level from 35 cents to 25 cents effective with the quarter ended March 31 last. Orders received in the first nine months of this year totalled \$131,000,000, or more than double those received during the same period of 1949.

Crompton Parkinson Limited. — Presiding at the recent annual general meeting of Crompton Parkinson Limited, Mr. Albert Parkinson, Chairman, said that many conditions once thought abnormal were now accepted as of usual occurrence, such as fluctuations in the prices of important raw materials (mainly increases), wars and rumours of wars, political uncertainties at home and abroad and the economic uncertainties that flow from them. Since September 30, 1947, the total employed capital of the company had more than doubled, but net current assets had nearly trebled. This indicated a relative improvement in the liquid position notwithstanding considerable expenditure on capital account. From their home factories they exported some 20 per cent. of their production, but had no means of measuring the volume of their products that went overseas as part of larger units. They believed that upwards of one-third of all they made eventually added its quota to the solution of the national balance of trade problem.

Tube Investments Limited. — Presiding at the annual general meeting of Tube Investments Limited at Birmingham on December 13, 1950, Mr. Ivan A. R. Stedeford, Chairman, said that new high records had been achieved in output, turnover, and sales. They had extended, with quite remarkable results, the application of scientific



Luncheon group at Carlisle (see paragraph above)

Seated (left to right): Mr. W. B. Shelton, Divisional Operating Superintendent, Crewe, L.M.R.; Lord Hurcomb, Chairman of the British Transport Commission; and Mr. R. Whatling, Dock Manager, Barrow-in-Furness, D.I.W.E. **Standing (left to right):** Messrs. A. W. Drew, Area Technical Assistant, Signals & Telegraph Department, Lancaster; E. Lees, District Traffic Superintendent, Carlisle, L.M.R.; J. H. Brebner, Chief Public Relations & Publicity Officer, B.T.C.; C. R. Campbell, Divisional Motive Power Superintendent, Crewe, L.M.R.; W. H. Best, District Engineer, Lancaster; B. P. Blackburn, District Locomotive Superintendent, Carlisle

OFFICIAL NOTICES

WANTED.—Two Locomotive Draughtsmen, one senior. Experience in diesel or electric locomotives desirable but not essential.—Box 923, *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

TRANSPORT ADMINISTRATION IN TROPICAL DEPENDENCIES. By George V. O. Bulkeley, C.B.E., M.I.Mech.E. With chapters on Finance, Accounting and Statistical Methods. In collaboration with Ernest J. Smith, F.C.I.S., formerly Chief Accountant, Nigerian Government Railways. 190 pages Medium 8vo. Full cloth. Price 20s. By post 20s. 6d. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

INTERNATIONAL RAILWAY ASSOCIATIONS. Notes on the work of the various associations concerned with International traffic, principally on the European Continent. 2s. By post 2s. 2d. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

RAILWAY SIGNALLING AND COMMUNICATIONS INSTALLATION AND MAINTENANCE. A practical guide, especially intended to help Signal Inspectors, Installers, Fitters, Linesmen, Draughtsmen, and all concerned with installing and maintaining Signal, Telegraph, and Telephone Equipment. 416 pp. Many illustrations. Cloth 8s. By post 8s. 6d. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

RAILWAY MAINTENANCE PROBLEMS. By H. A. Hull (late District Engineer, L.M.S.R.). Valuable information. With much sound advice upon the upkeep of permanent way. Cloth. 8s. 6d. by 5s. in. 82 pp. Diagrams. 5s. By post 5s. 3d. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

DIRECTORY OF RAILWAY OFFICIALS & YEAR BOOK. A useful reference book for railway officers, engineering firms and all who do business with railways. The only Directory which enables one to find the right railway and the right officer at the right moment. Issued July each year. Price 30s. net. Tothill Press Limited, 33, Tothill Street, London, S.W.1.

production management to lower costs and increase productivity, and, for over a year, had been introducing the newest techniques in standard costing and budgetary control, urged upon British industry within the past two months in the specialist productivity team's report on United States management accounting. Each of the five divisions had contributed to these results. Rearmament had brought an upsurge of activity which gave an impression of lessening economic difficulty, but apparent benefits were largely deceptive, and already the scarcity of raw materials, owing to stockpiling and the switch to defence production, indicated the possibility of changes in Tube Investments' manufacturing policy.

Mobile Showroom for Switchgear Demonstration.—For demonstrating their range of switchgear, Crompton Parkinson Limited have for several months been operating a mobile showroom visiting most industrial centres in Britain. The showroom, a special van body on a five-ton Austin long-wheel-base chassis, includes three complete switchgear units, an oil circuit-breaker, and component parts of switchgear such as handle gears and instruments. The oil circuit-breaker has side-blast baffle arc-control devices and is equipped with solenoid closing mechanism. To provide for demonstration of the switchgear, the solenoid can be energised from a 30-V. Young battery.

United Railways of the Havana & Regla Warehouses.—Comparing the working results for the period July 1, 1948, to June 10, 1949, with those for the previous year, the gross receipts of the United Railways of the Havana & Regla Warehouses Limited were £1,364,301 down, whereas expenses were only £394,220 down. The result was a loss on working of £780,830, compared with a surplus of £189,211 in the previous year. The Chairman states that the decrease in receipts is principally due to intensified road competition; the sugar crop was smaller and freight rates on cane and sugar, which vary according to the official average price of sugar, were reduced. All receipts show a reduction: passengers, £152,715; baggage, parcels and mails, £90,808; sugar traffic, £542,042; general goods & livestock, £415,267. Accounts were closed on June 10 instead of June 30, 1949.

East Yorkshire Motor Services Limited.—Presiding at the annual general meeting of East Yorkshire Motor Services, Limited, held on December 20, Mr. J. S. Wills, Chairman of the company, said that 31 million passengers were carried, revenue was down slightly, and fewer miles run in 1950. Operating costs had reached a new high level and continued to rise; and prices of fuel oil and other commodities had risen sharply. He also mentioned the

doubling of the petrol tax, and recent wage claims, still *sabre justice*. They had so far been able to meet very substantial increases in operating costs without having to apply for fare increases, and their fares remained at the same level as they were a generation ago, but high additional costs would make a general fare increase inevitable if they were to maintain their high standard of service.

Heenan & Froude Limited.—In his statement circulated with the report and accounts of Heenan & Froude Limited for the year ended September 2, 1950, the Chairman, Mr. Alan P. Good, states that orders received were well in excess of deliveries even though the value of the output from the works was the highest achieved in the company's history, and the order book stands at an all-time record. Orders can only be obtained by keeping prices at a competitive level; progress must be made in production technique and capital equipment kept up to the highest standards of efficiency; machinery must be replaced if more efficient machines are

marketed. With this there is linked the question of company taxation, which places a severe strain on available cash resources and a full order book, with much contract work of up to five years' duration, brings with it a high level of work in progress tying up working capital.

Argentine Strike Settled.—A strike of Argentine railwaymen, which halted services on five railways serving Buenos Aires, ended on December 17 after three days. The dispute was settled on a basis satisfactory to the workers, including increased pay, no reprisals, resignation of Government-appointed workers' leaders, and payment of wages during days of strike.

United States Railways Strike Ends.—On December 16, under pressure of a Presidential demand and of citations against their union and union leaders for contempt of court, shunters ended the unauthorised strike which began on December 12 in Chicago and spread to 15 cities, including Washington, St. Louis and Baltimore. The strike, which was to enforce demands for

Lord Hurcomb Visits the North West



Group at Heysham Harbour on the occasion of a recent inspection (see paragraph on page 614)

Left to right Mr. J. H. Brebner, Chief Public Relations & Publicity Officer, British Transport Commission; Captain F. C. Raven, Marine Superintendent & Harbour Master, Heysham, L.M.R.; Lord Hurcomb, Chairman, B.T.C.; Mr. A. Higginson, District Commercial Superintendent, Barrow, L.M.R.; and Mr. A. F. Fielding, District Operating Superintendent, Leeds, L.M.R.

more pay and shorter hours, seriously disrupted goods and Christmas mail traffic. It was in defiance of the Army, which technically has operated all the railways since they were seized by the Government last August.

Midland Railway of Western Australia.—The report for the year ended June 30, 1950, of the Midland Railway Company of Western Australia Limited shows that gross receipts were £299,665, and working expenses £235,980, which, after deduction of expenditure on renewals, interest on 4½ per cent. first mortgage debenture stock, and other items, and addition of balance brought forward, gives a balance of £49,294. Out of this are to be paid arrears of interest on the second mortgage cumulative income debenture stock for the six months ended December 31, 1947, amounting at 4 per cent. per annum to £11,847, leaving a balance to be carried forward of £37,447. Gross receipts and working expenses were respectively £22,846 and £54,251 more than in 1948-49. The ratio of expenditure to receipts was 78·7 per cent. compared with 65·6 per cent. for the previous year.

Forthcoming Meetings

January 1 (Mon.)—Institute of Transport, Metropolitan Section, at 80, Portland Place, W.1, at 5.30 for 6 p.m. Discussion: "That the meeting foresees a greatly reduced use of railway transport in the future"; for, Mr. H. C. Crane; against, Mr. M. F. Barnard.

January 2 (Tue.)—South Wales & Monmouthshire Railways & Docks Lecture & Debating Society, at the Angel Hotel, Westgate Street, Cardiff, at 6.30 p.m. "Historical Notes on the Railways of the Western Region in South Wales and Monmouthshire," by Mr. D. S. M. Barrie, Public Relations Officer, Railway Executive.

January 4 (Thu.)—Road Haulage Association, at Caxton Hall, Westminster, S.W.1, at 11 a.m. National Council Meeting.

January 4 (Thu.)—British Railways, Western Region, London Lecture & Debating Society, in the Headquarters Staff Dining Club, Bishop's Bridge Road, Paddington, W.2, at 5.45 p.m. "The Erection and Reconstruction of Large Railway Bridges," by Mr. P. S. A. Berridge, Bridge Assistant to the Chief Engineer, Western Region.

January 5 (Fri.)—Institution of Electrical Engineers and Institution of Mechanical Engineers, joint meeting at the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, S.W.1, at 5.30 p.m. Discussion: "Mechanical Handling."

January 5 (Fri.)—Scottish Society of Students of the Locomotive, at the Board Room, 302, Buchanan Street, Glasgow, C.2, at 7.30 p.m. "The Relationship between Cylinder and Coupled Wheel Dimensions on Express Engines," by Mr. William Robertson.

January 6 (Sat.)—Electric Railway Society, at the Fred Tallant Hall, Drummond Street, London, N.W.1, at 3 p.m. "A Glance at American Electrics," by Mr. H. W. A. Linecar.

January 6 (Sat.)—Historical Model Railway Society, at the Stephenson Locomotive Society, 32, Russell Road, London, W.14, at 3 p.m. "Railways 1841-1871," by Mr. R. G. Dettmar, Member of the Executive Committee of the Society.

Railway Stock Market

Stock markets have closed the year with a firmer trend in most sections, but business remained restricted, awaiting international developments. The year 1950 has been one of uncertainty in markets, though in recent months there has been a tendency for business in most sections to increase. During the greater part of 1950 dividend limitation was rigidly adhered to; but recently there has been a tendency for leading industrial companies to pay slightly more to shareholders.

The war in Korea caused a reaction in market values in which British Funds suffered sharply, but there was a rally. Tin and rubber shares attracted much more attention, tin reaching an all-time record price and rubber touching its highest price since 1911. British Funds have fluctuated, but movements in 1950 were smaller than in 1949, when, for example, 3½ per cent. War Loan had extreme levels of 104% and 87%, compared with 97½ and 90 in 1950. Current price at the time of writing is 94%. British Transport stocks have of course moved closely with the general trends in the gilt-edged market. Transport 3 per cent. (1978-88) recorded highest and lowest levels of 95% and 86½ in 1950, and are currently quoted at 91%.

In foreign railway stocks interest throughout the year was only limited, though take-over developments and estimates made for higher prices; but in many cases prices reacted below expected payout levels because of the unavoidable delay before the payout money is actually received by stockholders. Leopoldina rail stocks are all closing the year at virtually their highest levels touched in 1950 and they are still believed in the market to be below their probable payout levels. The 6½ per cent. debentures, for instance, are now 147, their highest during the past year; but Leopoldina Terminal 5 per cent. debentures were up to 102 at one time during the year and are now 90%.

United of Havana stocks, which were strong on reported take-over developments, have fluctuated sharply during the year but prices reacted sharply when the talks broke down. There have since been occasional rumours of new take-over possibilities, which proved to be without foundation, and prices of the various stocks have de-

clined sharply. The 5 per cent. 190-debentures, for instance, are now 16½, compared with extreme levels of 28 and 15 recorded during the past twelve months. Extremes for Antofagasta ordinary in 1950 were 9½ and 5½ and the current level is 6½; the preference stock, now 41, has had extremes of 48½ and 38½. La Guaira & Caracas ordinary has risen from 53 during the year on take-over developments and the expected payout in the early part of 1951.

Great Western of Brazil shares at 155 are now virtually at the year's highest. Manila "A" bonds have been up to 92 in 1950 and down to 56; and are now 66. San Paulo 10s. units moved between 18s. 6d. and 13s. 3d. during the year and are now 15s. 3d. Nitrate Rails had highest and lowest levels of 75s. 9d. and 68s. 9d. in 1950 and are currently quoted at 75s. Taltal shares, now 15s. 9d., had extremes of 19s. 7d. and 12s. 6d.

Canadian Pacifics have been prominent throughout the year, partly on the possibilities of big oil discoveries on the company's properties, but also because of the improvement in railway revenue, an achievement which is expected to continue. Raising of the dividend from 5 per cent. to 6 per cent. created an excellent impression, and the common shares have risen to 45 at the time of going to press, the highest level for many years. Earlier in the year they were down to 26½, and in 1949 they were only 14½ at one time.

Shares of locomotive builders and engineers have received rather more attention during the past twelve months, partly because yields are quite attractive. The market believes there are excellent prospects of dividends being maintained, particularly as rearmament work may very well offset any falling off of business in other directions.

Vulcan Foundry (now 24s. 3d.) have had highest and lowest levels of 24s. 6d. and 17s. 9d. in the past twelve months. Beyer Peacock (now 23s. 3d.) had extremes of 23s. 6d. and 18s. 6d. North British Locomotive (extremes 20s. 3d. and 16s. 3d.) are now 18s. 9d. Hurst Nelson (extremes 59s. 9d. and 53s. 6d.) are now 59s. 3d. Birmingham Wagon, now at 30s. 9d. have been up to 32s. and down to 23s. 9d. during 1950. Extreme prices recorded in the past twelve months for T. W. Ward were 69s. and 65s. 6d.

Traffic Table of Overseas and Foreign Railways

Railway	Miles open	Week ended	Traffics for week		No. of week	Aggregate traffics to date		
			Total this year	Inc. or dec. compared with 1948/49		Total	Increase or decrease	
						1949/50		
South & Central America								
Antofagasta	811	17.12.50	104,200	+ 28,230	50	3,489,104	+ 138,410	
Costa Rica	281	Oct., 1950	1,015,192	+ c35,030	18	c4,361,063	+ c471,596	
Dorada	70	Nov., 1950	36,972	+ 13,063	48	428,205	+ 107,418	
Inter. Ctl. Amer.	794	Oct., 1950	974,149	+ 394,917	43	\$11,201,432	+ \$1,091,307	
La Guaira	22½	Sept., 1950	68,726	+ \$39,529	39	\$725,535	+ \$241,943	
Nitrate	382	15.8.50	10,816	- 8,656	32	286,336	+ 6,203	
Paraguay Cent.	274	15.12.50	7217,116	+ 73,763	24	74,857,428	+ 7,139,221	
Puerto C.	1,050	Nov., 1950	57,577,000	+ \$1,083,700	22	\$58,783,000	+ \$11,773,242	
" (Bolivian Section)	66	Nov., 1950	Bs.13,612,000	+ Bs.2,401,000	22	Bs. 56,586,000	+ Bs.4,428,836	
Salvador	100	Oct., 1950	c87,000	+ c19,000	18	c355,000	+ c42,000	
Taltal	154	Nov., 1950	\$2,021,426	+ \$408,947	22	\$7,821,686	+ \$1,641,363	
Canada								
Canadian National†	23,473	Oct., 1950	18,063,000	+ 2,947,000	43	150,250,000	+ 13,286,000	
Canadian Pacific†	17,037	Oct., 1950	12,247,000	+ 1,163,000	43	103,218,500	+ 2,895,000	
Various								
Barsi Light*	167	Sept., 1950	18,540	+ 652	26	177,870	- 1,315	
Egyptian Delta	607	10.10.50	18,245	+ 1,296	28	319,911	- 24,005	
Gold Coast	536	Oct., 1950	261,844	+ 44,691	31	1,651,230	+ 35,555	
Mid. of W. Australia	277	Oct., 1950	42,456	+ 11,690	18	153,312	+ 41,071	
Nigeria	1,900	Jan., 1950	502,360	+ 38,978	44	5,017,814	+ 266,573	
South Africa	13,347	25.11.50	1,897,787	+ 408,690	34	57,196,071	+ 6,310,449	
Victoria	4,744	Sept., 1950	1,729,344	+ 103,977	13	-	-	

* Receipts are calculated at 1s. 6d. to the rupee

† Calculated at \$3 to £1

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7
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49